



February 1956

# Michigan State Medical Society

of the Michigan State Medical Society



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1850-1956



YOU MEAN  
YOU HAD TO PAY  
TWENTY-FIVE DOLLARS  
FOR THOSE NEW  
MEDICINES?

YES...  
BUT THEY SAVED \$900  
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Just as striking as the cut in deaths and

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FEBRUARY

# THE JOURNAL of the Michigan State Medical Society

VOLUME 55

FEBRUARY, 1956

NUMBER 2

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# THE JOURNAL

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FEBRUARY, 1956

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# You and Your Business

## HOMETOWN MEDICAL CARE ASKED FOR DEPENDENTS OF SERVICE PERSONNEL

The AMA House of Delegates (Miami, 1954) adopted the following statement concerning medical care for dependents of military personnel:

"... if it is to be the policy of the government to provide for medical care for dependents of service personnel, the services of civilian physicians and hospitals be used wherever possible, to be paid for at prevailing rates, with provision for free choice of physicians."

At a December meeting of members of the AMA Council on Medical Service Staff et al, it was suggested that the most practical way to meet the problem of medical care for dependents of service personnel would be on the basis of the pattern established in the veterans' "hometown care" program. This would be a practical approach to this problem and would ward off salaried physicians and other devices that by compulsion would keep the patient away from his family doctor.

The "hometown medical care" type of program would assure free choice of physician and hospital on a fee-for-service basis with Blue Shield acting as an administrative agency, for the doctors.

The Executive Committee of The Council, MSMS, at its December, 1955, meeting, authorized Michigan Medical Service to proceed with an offer of the "hometown medical care" program in negotiations on this subject with the Department of Defense. This action was taken to provide good and adequate service to dependents of servicemen through a medium that has proved effective over the years—and to preserve the physician-patient relationship for the benefit of the ill or injured person.

## AMA POSITION ON SOCIAL SECURITY

WHEREAS, The Old Age and Survivors Insurance section of the Social Security Act has become an important source of retirement and survivors' security for the American people, and Social Security payments represent an important element of personal income in the national economy; and

WHEREAS, Liberalizing amendments to the Social Security Act have been so frequently enacted in recent years as to justify the inference that political expediency rather than sound public policy was their motivation; and

WHEREAS, The Social Security Amendments of 1955 (H.R. 7225, 84th Congress), now pending before the Committee on Finance of the United States Senate, are a typical example of an irresponsible political approach to amendment of the Social Security Act, in that this

measure was conceived in secret in the Committee on Ways and Means, adopted in brief executive session without public hearings despite the request of many witnesses to be heard, rushed to the floor of the House of Representatives before the report of the Committee on Ways and Means was available, pressured through the House by a maneuver which by-passed the Committee on Rules, permitted no amendments and allowed only forty minutes of debate; and

WHEREAS, This measure includes sections which would authorize payment of federal cash disability benefits to selected individuals under the Old Age and Survivors Insurance section of the Social Security Act, as a matter of statutory right and without regard for the need of these individuals for cash assistance; and such cash benefits contingent on continued disability are known to be contrary to sound medical practice in the treatment and rehabilitation of the physically and mentally disabled; and

WHEREAS, The American system of the private practice of medicine, keeping inviolate the physician-patient relationship, has brought to the American people the world's highest standard of medical care, any interference by a third party, government or private, with the physician-patient relationship will destroy the principle upon which our successful system of medical care has been built and will lead inevitably to the deterioration of the quality of medical care available to the American people; and

WHEREAS, There has never been an adequate, objective, unbiased study of the nature, cost and scope of the Old Age and Survivors Insurance section of the Social Security Act and its economic, social and political impact on the American people; therefore be it

RESOLVED, That the American Medical Association reiterate in the strongest possible terms its determination to resist any encroachment upon the American system of medical practice which would be detrimental to our patients, the American people, and be it further

RESOLVED, That the American Medical Association urge and support the creation of a well-qualified commission, either governmental or private, or both, to make a thorough, objective and impartial study of the economic, social and political impact of Social Security, both medical and otherwise, and that the facts developed by such a study should be the sole basis for objective non-political improvements to the Social Security Act, for the benefit of all of the American people; and be it further

RESOLVED, That the American Medical Association pledges its wholehearted co-operation in such a study of Social Security in the United States, and will devote its best efforts to procuring and providing full information on the medical aspects of disability, rehabilitation, and medical care of the disabled, and be it further

RESOLVED, That copies of this resolution be transmitted to the President of the United States, to all members of the Cabinet, to all members of the Congress, and to all constituent state medical associations.

Adopted by the House of Delegates, Boston, Massachusetts, December 1, 1955.

(Continued on Page 120)

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## RESOLUTIONS ADOPTED BY MSMS HOUSE OF DELEGATES

September 26-27, 1955

### AMA STUDY COMMITTEE ON HIGHWAY ACCIDENTS

**RESOLVED**, That the Michigan Delegation to the American Medical Association be requested to introduce at the forthcoming Boston meeting of the AMA House of Delegates a resolution requesting the Board of Trustees of the American Medical Association to appoint a special committee to study the prevention of highway accidents.

### DRIVER TRAINING PROGRAM

**WHEREAS**, At the forthcoming special session of the Legislature of Michigan the matter of State subsidy to schools for student driver training will be seriously considered, and

**WHEREAS**, the universal adoption of an adequate driver training program in Michigan's schools within ten years promises at least a 10 per cent reduction in highway fatalities, or the saving of approximately 200 lives a year; therefore be it

**RESOLVED**, That this House of Delegates go on record as strongly endorsing the principle of State subsidy of student driver training; and that each delegate here, and so far as possible each member of the Michigan State Medical Society as an individual citizen, bring this matter to the attention of civic groups in his community as well as to his State senator and representative.

### HOSPITAL FACILITIES FOR MENTALLY ILL

**WHEREAS**, Michigan's facilities for the care of the mentally defectives are overtaxed and overcrowded, and long delays are being encountered in gaining admission to our State institutions, to the great detriment of the mental hygiene of the families involved, and

**WHEREAS**, At the present time there are about 1,200 committed patients of young age and "crib status" who are in urgent need of immediate medical care in hospital setting, and

**WHEREAS**, There is also a great and ever-growing number of additional mentally defectives who likewise require training and medical care, and who are a hazard to the mental health (adjustment) of their immediate relatives; therefore be it

**RESOLVED**, That the Michigan State Medical Society recommend immediate definitive action by the Governor and Legislature of the State of Michigan to correct and prevent the recurrence of this deplorable condition, and be it further

**RESOLVED**, That such definitive action not be allowed to impair in any way the efficient tuberculosis control programs now in effect and planned for this State; and be it further

**RESOLVED**, That copies of this resolution be delivered to all of the State legislators as well as the Governor before the next session of the Legislature.

### FEE FOR EXAMINATION OF MENTALLY ILL

**WHEREAS**, The fee established by legislative enactment for the examination of mentally ill has not been increased in over twenty years, and

**WHEREAS**, This makes it difficult for the Probate Court to obtain such examinations; therefore be it

**RESOLVED**, That the Michigan State Medical Society take steps to bring an increase in this fee.

## HIGHLIGHTS OF EXECUTIVE COMMITTEE OF THE COUNCIL

### Meeting of December 14, 1955

- **Scroll to R. L. Novy, M.D.**, Detroit, long-time President of Michigan Medical Service. The phraseology of this scroll, as authorized by the 1955 MSMS House of Delegates, was approved.
- **A letter from Veterans Administration** suggesting discontinuance as of July 1, 1957, of the successful "Home Town Medical Care" program for veterans was thoroughly discussed and referred to a committee headed by President W. S. Jones, M.D., for appropriate action.
- **Special committee** to study financial structure of MSMS. Speaker Livesay announced the personnel of this committee, authorized by 1955 MSMS House of Delegates: O. K. Engelke, M.D., Chairman, Ann Arbor; C. W. Colwell, M.D., Flint; E. H. Fenton, M.D., Detroit; E. G. Krieg, M.D., Detroit; S. L. Loupee, M.D., Dowagiac, and H. J. Meier, M.D., Coldwater.
- **Committee Reports.**—The following were given consideration: (a) AMA Clinical Session in Boston, December, 1955; (b) Arbitration Committee, meeting of November 11; (c) Scientific Work Committee, November 22; (d) Tuberculosis Control Committee, November 30; (e) Permanent Conference Committee, November 30; (f) Ethics Committee, December 2; (g) Rheumatic Fever Control Committee, December 7; (h) Child Welfare Committee, December 8; (i) Beaumont Memorial Committee, December 13.
- **A joint meeting** with the Executive Committee of the Board of Trustees, Michigan Hospital Association, was held. Representing MHA were President Mildred Riese, Detroit; Immediate Past President Andrew Patullo, Battle Creek; and Secretary H. Allan Barth. Matters of mutual interest were discussed.
- **For the 1956 Michigan Clinical Institute**, C. L. Weston, M.D., of Owosso, was appointed Chairman of the Scientific Press Committee. Members are H. F. Dibble, M.D., Detroit; A. B. Gwinn, M.D., Hastings; Ralph W. Shook, M.D., Kalamazoo, and Arch Walls, M.D., Detroit. W. B. Harm, M.D., Detroit, was selected chairman of the Testimonial Luncheon of March 8, arranged to honor Michigan M.D.'s who are presidents of national medical and health associations.
- **The University of Michigan** proposal for the physical examination of medical students by their family doctors was approved.
- **The use of IBM equipment** for the MSMS membership records, as of January 1, 1957, was approved. A committee to investigate details was appointed: L. Fernald Foster, M.D., Battle Creek, Chairman; Wilfrid Haughey, M.D., Battle Creek, and R. L. Novy, M.D., Detroit.

(Continued on Page 122)

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**REFERENCES:** 1. Boland, E. W. and Headley, N. E., *J.A.M.A.* 148:981, March 22, 1952. 2. Ward, L. E., Polley, H. F., Slocumb, C. H. and Hench, P. S., *J.A.M.A.* 152:119, May 9, 1953. 3. Snow, W. B. and Coss, J. A., *N.Y. State J. Med.* 52:319, Feb. 1, 1952.

## YOU AND YOUR BUSINESS

### HIGHLIGHTS OF THE COUNCIL

(Continued from Page 120)

- **Legal Counsel J. Joseph Herbert** was appointed to the MSMS Veterans Affairs Committee, and to the Joint Committee on Interprofessional Guide (with the State Bar of Michigan).
- **Wm. M. LeFevre, M.D.**, Muskegon, was extended a vote of thanks for his contribution of a fine hand-turned walnut table for the MSMS Executive Office.
- **The need for compulsory sickness insurance** in lieu of the "stop-gap" measures of Blue Cross-Blue Shield and insurance company programs of health and accident insurance, recommended recently by a high officer of the UAW-CIO, was reported by Secretary Foster. Some of the statements were ordered published in Secretary's Letter to be mailed to all members.
- **A letter drafted by the Liaison Committee** with the State Executive Offices outlining to Governor G. Mennen Williams the thinking of the State Society concerning co-operative action between MSMS and the State Executive Office was approved.
- **Lederle Laboratories**, Pearl River, N. Y., were given a vote of commendation for their part in making the recent civil defense meeting in Detroit an outstanding success.
- **President Jones** was authorized to send a letter of commendation to the Ford Foundation for its financial assistance to approximately 3,500 privately supported hospitals to help them improve and extend their services; to America's privately supported medical schools to help them strengthen their instruction facilities; and 1,615 regionally equipped, privately supported liberal arts and science colleges and universities in the United States to help them raise teachers' salaries.
- **Medical care for dependents of servicemen**: The Executive Committee of The Council authorized Michigan Medical Service to proceed with offer of the "Home Town Medical Care" program in its present negotiations on this subject.
- **Joint meeting** with representatives of the Michigan State Board of Registration in Medicine. Present were E. C. Swanson, M.D., Vassar, and W. E. Mercer, M.D., East Lansing, Secretary and Member, respectively, of the State Board. Matters of mutual interest were discussed.
- **A. E. Heustis, M.D.**, Michigan Health Commissioner, was present and discussed matters of health interest, including a report on the present status of polio vaccine requirements.
- **Public Relations Counsel H. W. Brenneman's report**: (a) October 9 meeting in Chicago at which a national organization of state health councils was recommended; (b) a new-type legislators' identification card; (c) program of the 1956 Michigan Rural Health Conference in Kalamazoo, January 19; and (d) report on Annual Meeting of Michigan Health Council.

### DOCTOR LOCATIONS

Through December 31, 1955

Placed by Michigan Health Council	Opened Practice in	Approximate Date
Elmer W. Smith, M.D.	St. Charles	December 1
Assisted by Michigan Health Council		
Russell F. Miller, M.D.	Ypsilanti	—

### MEDICAL MEETINGS AND CLINIC DAYS

A list of known medical meetings and clinic days, sponsored by county medical societies and other physician groups in Michigan, follows:

1956

February 16

MSMS Executive Committee of The Council

Detroit

March 6

Michigan Chapter, American College of Surgeons

Detroit

March 7-9

Michigan Clinical Institute, Sheraton-Cadillac Hotel

Detroit

March 9

MSMS Executive Committee of The Council

Detroit

Spring

MSMS Postgraduate Extramural Courses

Statewide

April 11

Genesee County Medical Society's Eleventh Annual Cancer Day

Flint

April 18

MSMS Executive Committee of The Council

Lansing

April 26

Cancer Day, Jackson County Medical Society

Jackson

May 3

Twenty-Eighth Annual May Clinic, Ingham County Medical Society

Lansing

May 8-9

Annual Clinic Day and Alumni Reunion, Wayne University College of Medicine

Detroit

May 16

MSMS Executive Committee of The Council

Detroit

June 4-7

American Cancer Society, Sheraton-Cadillac Hotel

Chicago

June 11-15

Annual Session, American Medical Association

Muskegon

June 20

MSMS Executive Committee of The Council

Sault Ste. Marie

June 22-23

Upper Peninsula Medical Society

Mackinac Island

July 19-21

Mid-summer Session of the MSMS Council

KNOX

# Protein Previews



## New Study Shows Gelatine Restores Brittle Fingernails to Normal

*Directions for making the Knox Gelatine drink in every package*



Brittle, fragile or laminating fingernails are the bane of many a woman's existence. Yet this highly prevalent and distressing condition often has gone uncontrolled for lack of effective therapy. Now, you can promise these patients substantial relief in a large percentage of cases.

In a recent study<sup>1</sup> that confirmed previous work<sup>2</sup> Knox Gelatine was used to treat 36 women with fragile, brittle, laminating fingernails. The response was most gratifying. Except for three patients who discontinued the therapy, three diabetics, and two women who had congenital deformities, the splitting ceased and all other patients were able to manicure their nails to a full point by the time the study ended.

Optimal dosage proved to be one envelope (7 grams) of Knox Gelatine administered daily for

three months. Improvement, however, was noted after the first month. If you would like more complete details of this work, just use the coupon.

1. Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* 19:171-179, March 1955.
2. Tyson, T. L., *J. Invest. Dermat.* 14:323, May 1950.

Chas. B. Knox Gelatine Company, Inc.  
Professional Service Dept. SJ-14  
Johnstown, N. Y.

*Please send me a reprint of the article by Rosenberg and Oster with illustrated color brochure.*

**YOUR NAME AND ADDRESS**

## Ford Foundation Helps Hospitals and Medical Schools

One hundred fifty privately supported Michigan hospitals in communities throughout the state will share \$8,930,300 out of the \$500,000,000 in grants appropriated by the Ford Foundation and announced in mid-December.

Realizing the importance of these grants to the improvement and extension of hospital service in Michigan, MSMS was quick to congratulate the Ford Foundation on its generosity. In a letter from President William S. Jones, M.D., on behalf of The Council, Dr. Jones stated:

"It is my happy privilege to write you this letter of high commendation for your financial assistance in areas where help is direly needed. Congratulations on this latest generosity of the Ford Foundation."

In reply, H. Rowan Gaither, Jr., President of the Ford Foundation, said:

"The response throughout the country has given all of us at the Foundation a deep sense of satisfaction. We shall be even more pleased if the grants further serve to emphasize the continuing need of our independent institutions for private support."

The gifts to Michigan hospitals range up to \$250,000, with no institution on the list receiving less than \$10,000. Of the 150 Michigan hospitals participating, thirty-three will receive more than \$100,000, and of these twelve will receive more than \$150,000, and five more than \$200,000. The grants, which are still subject to final determination, are scheduled to be paid over the next eighteen months.

The terms of the grant place full responsibility on the governing authorities of each hospital to spend the funds in accordance with local needs and problems. Use of the funds will be permitted for any program of improvement or extension of hospital service, but not for operating expenses or services currently being performed by the hospitals.

"A particular purpose of the grants would be to assist hospitals desiring to do so to achieve full accreditation with the Joint Commission on Accreditation of Hospitals," the Ford Foundation said in announcing these special appropriations. "Programs may be in the form of improvement of or addition to facilities or

services, additions to or training of personnel, and conducting research.

"Within these broad limits, the recipient hospital may use its grant in any area of hospital service, including, for example, disaster planning, mental illness, prematurity, rehabilitation, handicapped children, preventive or diagnostic services, outpatient care, or any other area which in the opinion of the hospital's governing board would best serve its community."

Computation of grants was based on reports from each hospital to the American Hospital Association. The amounts were determined on the basis of patient days of service provided by the hospital, and the number of births in the hospital (days of care given to newborn infants are not shown in the patient day tabulation normally; therefore, the number of births was added to patient days "as a measure of an important hospital service").

Nationwide, the Ford Foundation appropriated a total of \$200,000,000 for approximately 3,500 voluntary nonprofit hospitals.

Another \$90,000,000, appropriated but yet to be distributed, will go to privately-supported medical schools to help them strengthen their instruction. Allocations to individual schools will be determined following the report of an advisory committee. Since Michigan's two medical schools are government-supported institutions, it is not anticipated that they will share in the Ford Foundation grants.

Yet another \$210,000,000 was appropriated for 615 private liberal arts and sciences colleges and universities to help them raise teachers' salaries. Of these grants, thirteen Michigan colleges will share \$724,300.

The gifts to colleges and medical schools must be used as endowment, from which the income is to be used to increase faculty salaries. After ten years, either the principal or income may be used for any academic aid.

"With deeply-etched personal memories of Armistice Day in France, on November 11, 1918, V-E Day in Europe, and V-J Day in the Pacific, what a tragedy it is that so many of our finest young men must die . . . to settle so little."—JOHN S. KNIGHT, Editorial in *Detroit Free Press*, September 1, 1955.

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## Family Doctors to Examine University Students

For the first time since 1922, new entering students of the University of Michigan, beginning with the fall enrollment, 1956, will be required to have medical examinations completed by their family physicians, according to Morley B. Beckett, M.D., Director, University of Michigan Health Service. This is a new plan decided upon to provide better and more personal doctor-patient relationships and to give opportunity for correction of defects before students enter the University.

Since 1922 examination of freshmen and transfer students has been accomplished each fall by the mass-line method. In 1955 over 6,000 such examinations were done. The great numbers forced a study to be made of the whole procedure with the idea of improving the methods employed. After careful consideration it was decided that many advantages would accrue from changing from the old method to a home town physician examination.

The cumbersome mass-line examination completely eliminated any semblance of physician-patient relationship. As enrollments continued to increase at the University, this relationship lost meaning in the numbers of students who had to be examined. The educational advantages originally gained by medical students from the old method were soon cancelled by the sheer weight of numbers of examinations. Other objections to the old method were raised by many older students and those who were accustomed to medical guidance from their family physicians.

Examinations accomplished by personal physicians in advance of the students' arrival in Ann Arbor will permit proper correction of defects before they enter the University. This should cut down the amount of absenteeism from classes and study sometimes caused by the emergency correction of defects which become aggravated during the first days of pressure of campus life. Such defects are often uncorrected visual defects, dental caries, hearing losses, hernia, acne, emotional disturbances, anemia, and numerous others.

Information obtained from the home town physicians will be most helpful in the care of the students by physicians of the Health Service. We

will ask for any medications or treatments which the student is receiving so that these may be followed during the school year. It is important in emergencies that the Health Service be aware of drug sensitivities or allergic reactions known to the family physician. We consider that the Health Service should promote good medical knowledge and be in close touch with family physicians for any care which is given while the students are in residence here.

An opportunity was taken in preparation of the medical report form to advocate proper medical and dental care and early recognition and correction of defects. Much of the form is to be prepared by the prospective student for educational reasons, saving the physician's time and providing a background of information. The physician is asked to complete only the back page in which the questions are intended to be concise and important. Financial arrangement for the medical examination is a private matter between the physician and the student and is a responsibility of the student.

In no way will the examinations which are returned in envelopes marked "confidential" to the University Health Service be a basis for refusing to accept a student, except in such obvious group-dangerous conditions as open tuberculosis. These reports should facilitate the educational program by making it possible for the Health Service to provide such special care as might be required in cases of diabetes, hay fever, epilepsy, emotional problems, or physical handicaps.

Chest x-rays will still be done by the Health Service on each student on arrival at the University. This is considered a necessary precaution for the protection of the group and is a service for the many students who come from areas where such service is not readily available.

The approval of this program by the executive committee of the Council of the Michigan State Medical Society is most gratifying. It is expected that the co-operation of the physicians of Michigan and other areas will help promote good teaching of preventive medicine and result in better doctor-patient relationships.

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capsules (unbuffered)  
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for infants and children

## New Site for Wayne County Medical Society



MILTON A. DARLING,  
M.D.

of Wayne University Medical Center.

Signing the lease were Milton A. Darling, M.D., for the Society, and Mrs. Betty Becker for the Board of Education.

Speakers included President Darling, Mrs. Becker, Chairman of the day James J. Lightbody, M.D., and Past President J. Milton Robb, M.D. Dr. Robb recalled the struggles of the Society during the depression when funds dwindled to a point where paying rent in the Maccabees Building was a difficulty. Through the good auspices of the late Neil Hoskins, M.D., Dr. Robb and the late Frank A. Kelly, M.D., the Society was able—through the generosity of the Whitney family of Detroit—to move into the

magnificent home at Woodward and Camfield which has been the headquarters of WCMS for twenty-three years.

Other speakers included Lawrence Reynolds, M.D., and Dean Gordon H. Scott, Ph.D., who expressed personal gratification upon seeing the fruition of one of his own "pet projects."

Closing the remarks was President Hilberry of Wayne University who spoke of the cordial relations that have existed between the University and Wayne County Medical Society and the medical activities of the University centering in the Society which had been highly instrumental in enlisting community support and furthering medical interests.

Other members of the Board of Education who were present were: Mrs. Alan Carty, Miss Louise C. Grace, Mrs. William Merrifield, Dr. Remus Robinson, and Mr. Edward M. Lane, Secretary. Also attending were members of the Board of Trustees of Wayne County Medical Society, The Council and a number of Past Presidents. Dr. Blain and Dr. Stapleton spoke on behalf of the Past Presidents. Members of the Building Committee also attended. Mr. Ward Culver, Dr. R. L. Novy, and Dr. Frank Weiser were special guests.

### Blue Cross - Blue Shield Enrollment

All members of the Michigan State Medical Society and their full-time office assistants will again have the opportunity to get Blue Cross-Blue Shield hospital-medical-surgical coverage for themselves and their families during the once-a-year enrollment reopening that will run from March 10 to April 1.

Letters announcing the reopening, together with applications, enrollment instructions and a folder outlining details and rates of the coverages will be mailed to all members March 7.

This is also the time that enrolled subscribers may make changes in coverage.

Effective date for new subscribers and for changes in coverage made during this reopening will be May 1, 1956. The recent increase in Blue Cross rates of 33 cents a month for single subscribers and \$1.14 a month for two-person and family contracts will become effective on that date (May 1) for members of the MSMS group.

For the convenience of those who will be attending the Michigan Clinical Institute on March 7, 8 and 9, Blue Cross-Blue Shield representatives will be available to furnish and accept applications at that time, even though it is a few days in advance of the official reopening period.

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*the totally new penicillin for decisive oral dependability*

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Supplied: Tablets, 125 mg. (200,000 units), bottles of 36; 300 mg. (500,000 units), bottles of 12. Also available: Tablets BICILLIN®·VEE, 100 mg. (100,000 units) of benzathine penicillin G and 62.5 mg. (100,000 units) of penicillin V, bottles of 36.

*Wyeth*

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Philadelphia 1, Pa.

## MSMS-Sponsored Radio Programs

The scientific radio program, currently being broadcast over approximately ten stations in Michigan under the sponsorship of the Michigan State Medical Society Scientific Radio Committee, includes the following forty presentations (past and future):

### 1955

10/ 7	"The Hygiene of Pregnancy"	Harold C. Mack, M.D.
10/14	"Management of Labor" "Anesthetics"	Tommy N. Evans, M.D.
10/21	"Care of the Newborn"	Bruce D. Graham, M.D. Ruth Carney, R.N. Ernest H. Watson, M.D.
10/28	"The Baby's First Year"	Adelia Beeuwkes, M.S.
11/ 4	"Feeding in the First Five Years"	James L. Wilson, M.D.
11/11	"The Cerebral Palsied Child"	
11/18	"Muscular Dystrophy"	Arthur L. Drew, M.D.
11/25	"Obesity-Dietitians-How to Reduce"	M. Isabel Foster, M.A.
12/ 2	"Obesity"	Holbrooke Seltzer, M.D.
12/ 9	"Arthritis"	William D. Robinson, M.D.
12/16	"Arthritis Research"	Ivan F. Duff, M.D.
12/23	"Physical Medicine-Rehabilitation of Arthritis"	George Koepke, M.D.
12/30	"Backache"	Carl Badgley, M.D.

### 1956

1/16	"What Can We Do About Polio Today"	James L. Wilson, M.D.
1/13	"Rehabilitation of the Polio Patients" (Panel)	James W. Rae, M.D. David G. Dickinson, M.D.
1/20	"Juvenile Diabetes"	George Lowrey, M.D.
1/27	"Adult Diabetes"	Jerome W. Conn, M.D.
2/ 3	"Congenital Heart Disease"	Conrad Lamb, M.D.
2/10	"Rheumatic Heart Disease"	Leon De Vel, M.D.
2/17	"Acquired Heart Disease"	Donald C. Overy, M.D.
2/24	"Living With Your Heart Disease"	Franklin D. Johnston, M.D.
3/ 2	"Accident Prevention in Childhood"	Harry A. Towsley, M.D.
3/ 9	"Living with the Atom Bomb" (Panel)	James V. Neel, M.D. Henry Gomberg, Ph.D.
3/16	"Burns"	Paul Hodgson, M.D.
3/23	"What Abdominal Pain Means"	Robert Berry, M.D.
3/30	"Your Responsibility in Case of Accident"	Marion DeWeese, M.D.
4/ 6	"Skin Cancer"	Arthur C. Curtis, M.D.
4/13	"Cancer of the Female Generative Organs"	Norman Miller, M.D.

4/20	"Gastrointestinal Cancer"	H. Marvin Pollard, M.D.
4/27	"Lung Cancer"	Cameron Haight, M.D.
5/ 4	"Cancer of the Prostate"	William Baum, M.D.
5/11	"Multiple Sclerosis"	Russell DeJong, M.D.
5/18	"What Mental Health Means to Me"	Raymond W. Waggoner, M.D.
5/25	"Hearing"	Albert C. Furstenberg, M.D.
6/ 1	"Headaches"	Martha Westerberg, M.D.
6/ 8	"The Importance of Tuberculosis"	Winthrop N. Davey, M.D.
6/15	"Treatment of Tuberculosis" (Panel)	Herbert Sloan, M.D.
6/22	"Seasonal Allergy"	John M. Sheldon, M.D.
6/29	"Summer Skin Complaints"	Arthur C. Curtis, M.D.
7/ 6	"Adolescent Problems—Sex Education"	Ralph D. Rabinovitch, M.D.

H. A. Towsley, M.D., Ann Arbor, chairman of the MSMS Scientific Radio Committee, reports that the above programs are being broadcast over the following stations: WUOM, Ann Arbor; WPAG, Ann Arbor; WBRM, Big Rapids; WDET, Wayne University, Detroit; WKAR, Michigan State University, E. Lansing; WLDM, Detroit; WMDM, Midland, and WFUM, Flint.

Public interest in these presentations is best exemplified by the following letter received from Larry D. Irey of Kalamazoo:

"I am twelve years old and I hope to become a future doctor. I am writing to tell you how much I appreciate your program *Frontiers of Health* on the University of Michigan hour. I have seen each one that you have presented and I have learned very much. I would like to congratulate you on the very swell job you are doing and also to Doctor Judge on his job as moderator."

### THE DREAD DISEASE

As physicians we are best able to appreciate the plight of the cancer patient, and should be the first to combat the loneliness that can so quickly surround him. How much such an individual should be told of his condition has long been a subject of debate. Most agree, however, that he should at least be given some indication of the nature of his disease. Many should be told the truth, provided they are always given hope of recovery. It should be stressed that malignant disease is not incurable, that it is not communicable and that it is not due to misconduct or neglect. And always the patient must be made to understand that he, his family and their physician make up a team to bring the disease into the open, combat it and cure it.—*GP*, December, 1955.

12/15/55 Discharge Note:

This 44-year-old man was admitted on 12/8/55 with a history of fever, back pain and dysuria of three days' duration. Urine culture revealed mixed infection with gram-positive and gram-negative organisms. Diagnosis: pyelonephritis. Oral Terramycin therapy was instituted (2 Gm. the first day, 1 Gm. daily for four days thereafter) in divided doses q. 6 h. Patient was afebrile in 24 hours; culture negative by second day of treatment.

R. Physician, M.D.

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## PR REPORT

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**A HAPPY ENDING** to an unfinished story which appeared on this page in the December issue was finally written by the Legislature too late to meet the deadline for the January JMSMS. The story concerned the stalemate in the second special session of the Legislature called to consider the state's problems in the care of mentally retarded children. Although it's old news and Michigan is now deep into the 1956 regular legislative session, the final chapter of the special sessions should be recorded here if only to illustrate the co-operation possible in our state government when the Legislative and Executive branches both put forth an effort.

In mid-December, the six-man conference committee representing both the House and the Senate came up with a "compromise plan" after careful examination and evaluation of all the proposals offered for the care of mentally retarded children. The weeks of controversy ended with the adoption of this committee report and the enactment of emergency legislation providing for the placement of some 1,500 children awaiting admission to state institutions, without committing the state to the purchase of facilities which were not considered desirable under the long-range program already in effect.

As finally worked out, the state agreed to lease and remodel Fort Custer hospital buildings to accommodate 800 patients, to increase the Mt. Pleasant and Coldwater state homes and training schools by a combined total of 350 beds, to institute a "family-care" program for 100 retarded children, and to contract for the hospitalization of 250 more in non-state facilities, including 150 at Farmington Hospital. Much of the credit for this solution was attributed to Senator Elmer R. Porter of Blissfield.

**USE OF RADIO BY COUNTY MEDICAL SOCIETIES** for public education continues to increase. At the first of the year two societies inaugurated their own fifteen-minute shows, recorded in advance at the convenience of participants. In both instances the MSMS Public Relations Department and field staff offered maximum assistance.

The Saginaw County Medical Society is presenting a weekly series of thirteen quarter-hour broadcasts on timely medical topics each Wednesday at 7:15 p.m. over WSGW, Saginaw. The Oakland County society has arranged for three monthly shows over WPON, Pontiac.

The largest potential listening audience for any of the current medical broadcasts in Michigan is provided by WJBK, Detroit, which is using the excellent "Why Do You Worry?" series recorded by the American Medical Association. It is heard at 5:15 p.m. each Sunday. This program is presented by the Wayne County Medical Society, in co-operation with MSMS. In Lansing, this same series is now heard over WILS as an Ingham County-Michigan State Medical Society joint venture.

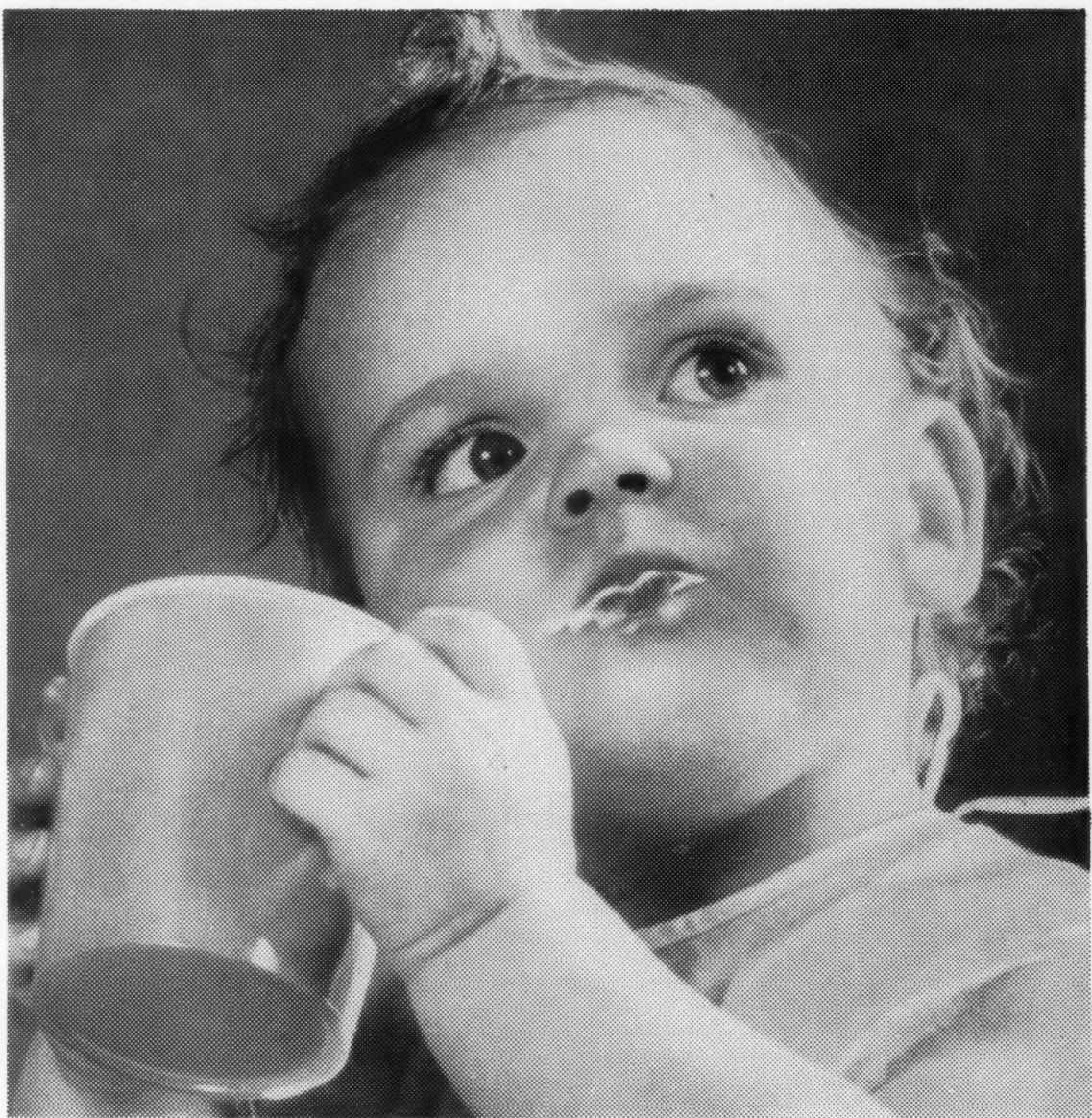
"Why Do You Worry?" also will be heard in the Monroe area when its new station, WMIC, goes on the air in March.

In addition to the new programs listed above, twenty Michigan radio stations now carry other regularly scheduled broadcasts under auspices of local medical societies and MSMS.

**CLOSED CIRCUIT TELEVISION** as a technique for bedside medical teaching was inaugurated in January in the Grand Rounds series, beamed to doctors of medicine in fifty major cities under sponsorship of The Upjohn Company of Kalamazoo. In Detroit the initial show, which originated at Tufts School of Medicine, was presented in the Oak Room of Masonic Temple. The adaptation of TV to the historic bedside technique was announced as a means of offering to the physician in practice "a unique opportunity to observe distinguished clinicians and to test his own acumen against that of the specialists."

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Edwin S. Hamilton, M.D., Board of Trustees, AMA: "I think I am not giving away any secret when I tell you that, individually, they (survey committee) found the medical profession is not in such bad repute, but as an organization—and that means on both state and national levels—we do not have the same respect by the laity. We found that this was quite universal or national, even from Washington down to Kankakee. It didn't surprise us, but we didn't know everybody, or a large majority, felt that way."



## Borden's has a fresh dairy food for almost any dietary requirement

In addition to such familiar items as Borden's Homogenized Vitamin D Milk, Borden's Cream, and Dutch Chocolate Milk, we'd like to remind you of our regular and low-calorie Cottage Cheese, Buttermilk, and Gail Borden Milk and Skimmed Milk — all helpful in dietary planning.

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# AMA Washington Letter

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## THE MONTH IN WASHINGTON

Bills that have been hanging fire in Senate and House Committees for over a year finally are getting attention as the Administration pushes its program for broader and more uniform medical care for the families of servicemen.

A new version of a bill was dropped in the hopper on the opening day of this session by Chairman Carl Vinson of the House Armed Services Committee. It was designed in part to supply answers to a number of questions growing out of earlier versions sponsored by the Defense Department. Actually it raised more questions, which only hearings and testimony from expert witnesses and debate on the floor of Congress can answer.

The bill (H.R. 7994) authorizes, as a matter of right, broad medical care for dependents of the armed forces as well as of Coast Guard, Public Health Service and Coast and Geodetic Survey personnel serving on active duty. (The bill would authorize health insurance only for dependents of latter three services). Separate bills have been introduced in the past providing medical care for dependents of Coast Guard, PHS and Geodetic Survey, but this marks the first time they are brought into the same bill with military personnel.

In provision of services, the bill has no surprises over its predecessors. It calls for diagnosis, treatment of acute medical and surgical conditions, treatment of contagious diseases, and maternity and infant care.

On another point of major interest to physicians, the bill drops out all mention of the home-town medical care plan, which was a part of Mr. Vinson's earlier bill. That bill contemplated use of civilian hospitals and doctors for those dependents who were not near military medical facilities and who had not taken out health insurance, with the government paying part of the cost.

Another area of almost certain debate in the latest bill is the insurance features. There are these main points:

1. A serviceman may elect to rely entirely on the chance of finding space available in a military hospital or clinic for his family, or he may choose protection through an insurance plan.

2. The family deciding on insurance has its choice of going to a military hospital or using civilian resources. The uninsured family could be charged by the military for out-patient care, and would have to pay subsistence costs while in the hospital.

3. A serviceman taking insurance would pay 30% of monthly premiums for a basic plan covering his wife and children, and the entire premiums for coverage of dependent parents and parents-in-laws. Parents and parents-in-law who found space in a military hospital, however, would be admitted on the same basis as wives and children.

4. Catastrophic-type coverage, at additional premium.

5. To take care of long term illnesses, the bill provides for transfer of dependents to military facilities once they have used up benefits in an insurance plan. Or if such transfer isn't feasible, the government could pay the additional costs for private care.

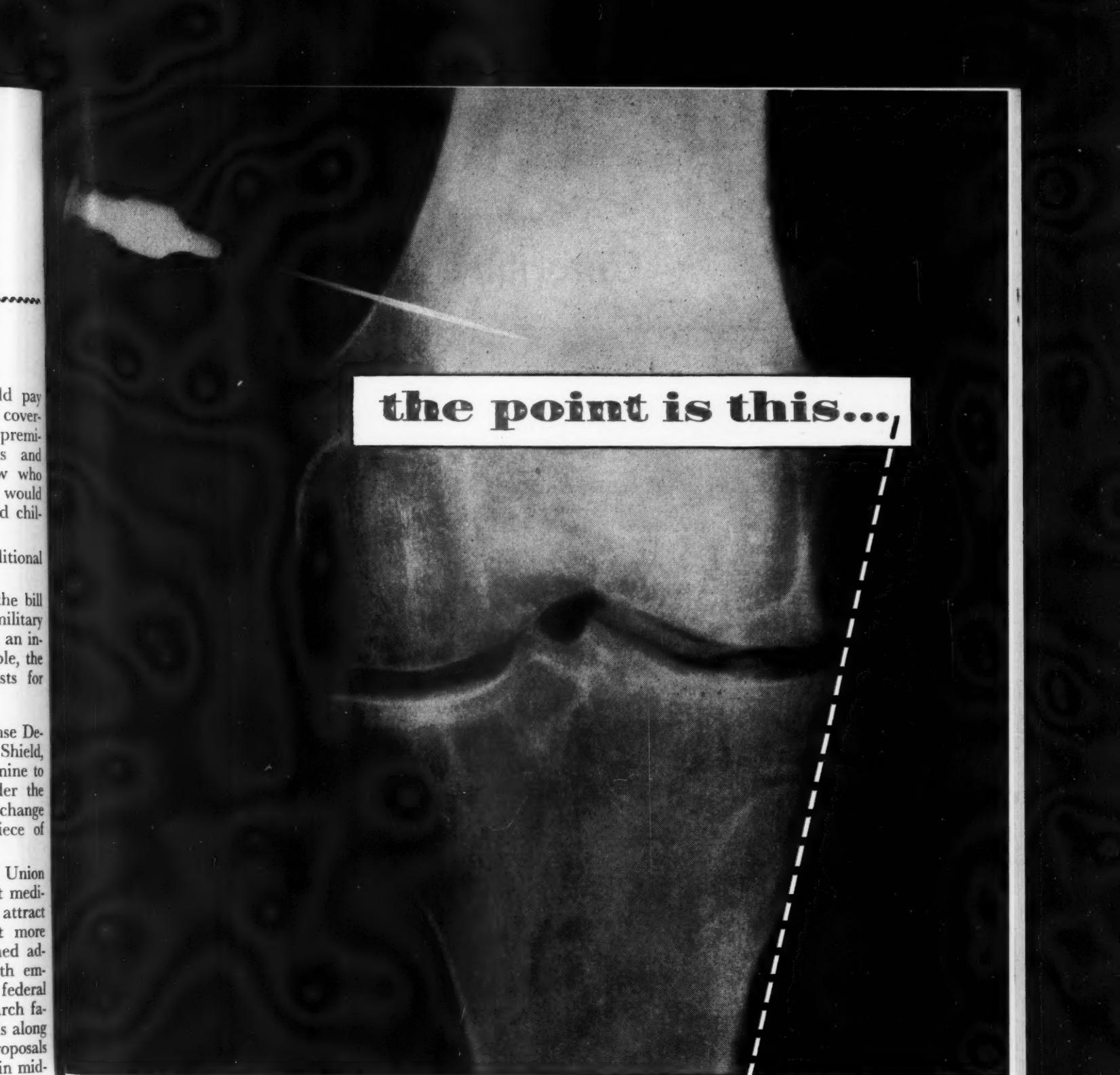
The bill was introduced before the Defense Department had completed a survey of Blue Shield, Blue Cross and commercial plans to determine to what extent they could provide care under the bill. Conceivably the survey could further change the shape of an already much-revised piece of legislation.

President Eisenhower in his State of the Union message summed up the case for dependent medical care this way: "Much has been done to attract and hold capable military personnel, but more needs to be done." He also broadly outlined administration plans in the health field, with emphasis on more money for research and federal aid to medical schools and to private research facilities for construction. With bipartisan bills along this line already before Congress, these proposals may move right along before adjournment in mid-summer.

However, Congress might decide that for this year medical schools should settle for the \$90 million of Ford Foundation money being made available to private schools to help strengthen teaching staffs.

By the same token, there was some question just how much Congress would vote for Hill-Burton hospital programs this session in the light of the \$200 million Ford grants to some 3,500 non-profit hospitals.

A recent Public Health Service report indicates that states are now showing less preference for "public" Salk vaccine programs than they did a few months ago. The sixth allotment marked the high-point in "public" preference. Then came a slight but steady decline.



**the point is this... ,**

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from joint symptoms—in many patients the  
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## Editorial Opinion

### KEEPING THE BLUE CROSS OUT OF THE RED

Elsewhere in this issue, we publish a "Memo from Blue Cross." You will find it on page 539. Several of the statistical items seem to leap out of the cold type and hit us doctors right in the eye. For instance, the hospitalization incidence (admissions per thousand enrollees) skyrocketed in the last four years from 95 to 123. It seems hard to believe that the ratio of hospitalizable illness incremented more than 20 per cent—but there are the figures! Then, too, average length of hospital stay has somewhat surprisingly, started to climb. For years, it has been medicine's boast that, between ambulation and wonder drugs, the average hospital stay was getting shorter. Now this trend seems to be reversing. And, like everything else, the *per diem* [cost] is on the upgoing elevator too.

Doctors can't control the *per diem* [cost] (except by avoiding needed tests and procedures, and no one asks them to do that). But doctors have some control over the decision to hospitalize or keep at home an ambulatory patient. And they have some control over the discharge date. There are a quarter of a million hospital patients annually in New Jersey. A decision to send the patient out on Friday, or let him take it easy there until Monday, may add three days to the stay. If this is done on all patients, the burden on Blue Cross is upped by some 700,000 days a year! This adds up to something for an agency like Blue Cross, that pays back 91 per cent of its income.

The lesson can be colorful. The cross is blue, the books get red, the goose is golden. No sense in killing so gold a goose.—From *The Journal of the Medical Society of New Jersey*, October, 1955.

### BLUE SHIELD PARTICIPATION

The Grievance Committee of the New York County Medical Society in an extensive report early this year stated: "The practice of some physicians to ask for higher fees from a patient legitimately entitled to Service Benefits, when the Doctor is a participating physician in Blue Shield endangers the whole concept of voluntary health insurance and low cost medical care for low-income patients."

United Medical Service, the New York Blue Shield plan, had a provision requiring subscribers to notify their physicians that they had Blue Shield Service Benefits so that the doctor would understand. Since the report quoted, the U.M.S. with understanding and approval of the Medical

Society Reference Committees, and the Medical Policy Committee, has abrogated the notification request. They will, however, advertise and urge their subscribers to discuss fees and services with their doctors at the first visit.

Another change of procedure is announced: "Participating physicians make it possible for Blue Shield to exist, yet derive no more benefits from Blue Shield than non-participating physicians. In order to remedy this situation U.M.S., with the approval of the Medical Societies Reference Committees, and the Medical Policy Committee of the U.M.S., has decided that in the future only participating physicians will be paid directly. When care has been rendered by a non-participating physician the check will be sent to the subscriber."

Most of us who remember the practice of medicine in the days before the prepayment plans know from sad experience that many of those checks never reached the doctor who rendered the services. Some other pressing need too many times appeared. Our prepayment plans were instigated to help the *low-income* families who could not pay for either doctor or hospital, except in rare cases, and then by great sacrifice. Those were the ones most in need. The other and more fortunate persons just joined with groups. [In Michigan we recognized the right of the doctor to charge his regular fees to over-income members if more than the schedule.] The low income group is still with us and should be completely and efficiently cared for. New York is attempting to right a grievous wrong.—Adapted from *Journal of the New York Medical Society*, (Nov.) 1955.

Swelling, limitation of motion, and slight pain are the earliest complaints in giant cell tumors.

A careful case history, a painstaking inspection, and a thorough palpation are the fundamental methods of diagnosis of genitourinary tumors.

The predominant sign of bladder neoplasm is gross hematuria, which is the first indication of disease in about 75 per cent of cases.

Although most bladder carcinomas are radiosensitive, irradiation seldom accomplishes complete sterilization of these tumors.

Metastases of bladder cancer occur most often to the pelvic and periaortic lymph nodes, the lungs, lumbar spine, and pelvis.

# The JOURNAL

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## Frontiers of Health

WHEN one reads of advances in medicine he gets the impression that frontiers of health are fading so rapidly that man can expect within the next generation or two the ultimate disappearance of disease.

Frontiers, however, don't fade. They change.

Recently, I read the comments of an observer of medicine in a weekly news magazine. He wrote, in effect, that the current and somewhat careless use of statistics is leading the layman to believe that progress in medicine can mean only one thing: victory over death. Then the observer wrote that even though deaths from one cause might be decreasing dramatically, deaths from other causes of necessity must be increasing.

Medical statistics must always add up to 100 per cent. What we do for victims of cancer, we do not do for victims of automobile accidents; where we succeed with infectious diseases, we are statistically embarrassed by coronaries; and although we may reduce the percentage of prenatal accidents, the colony of hypertensives continues to expand.

This is the physician's paradox, and it forces him to be humble. This is the doctor's dilemma, and it compels him to be courageous. This is also the scientist's frustration, but he must keep the faith.

There is another side to the irony of medicine. It is the relentless effort which we doctors must exert in the laboratories, at the bedside, and in the classroom in the face of a known and certain amount of defeat. We doctors know that complete victory is impossible, but we also know that anything short of complete dedication is equally impossible.

By A. C. Furstenberg, M.D.

Dean, University of Michigan Medical School

For these reasons, I believe that today's clinician must protect himself against unwarranted self-satisfaction and unnecessary cynicism. We can all take great moral strength from the laboratory scientist who may labor a lifetime for uncertain rewards. His wages are modest, and his little achievements, if not attributed to someone else, are often forced into obscurity.

The popular distinction between "basic" and applied research has given all of us the false impression that one is more significant than the other. Without the information and knowledge accumulated in the laboratories, we might come to rely on charm rather than on facts.

The human resources for continued research into basic problems of medicine are everywhere to be found, if we would but adopt the search for them as part of our professional obligation. A potentially brilliant biochemist may be hidden in some remote high school classroom.

The frontiers of health do not fade. They change, and they challenge. Today one of the most challenging frontiers is the discovery and exploitation of human talent which is "out there somewhere." We must search for this talent, and we must subsidize it to the limits of our generosity so that such investigators can work with a minimum of economic anxiety.

We must do one thing more. Once we have found it, we must have a defeatless faith in the purposes to which such scientific talent is dedicated. We will fail from time to time in matters of life and death, but we must never fail to pursue knowledge and wisdom for their own sake.

We owe a deep debt of gratitude to men of medical research, and we must never fail to express this gratitude.

# Advances in Internal Medicine

By Cyrus C. Sturgis, M.D., Fred M. Davenport, M.D.,  
Winthrop N. Davey, M.D., Sibley W. Hoobler, M.D.,  
Franklin D. Johnston, M.D., H. Marvin Pollard, M.D.,  
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Ann Arbor, Michigan

IN RECENT years important advances have been made regarding the etiology, diagnosis and treatment of many diseases. In this paper, a few of the most important ones will be summarized briefly.

## Hematology

*Iron Deficiency Anemia.*—Iron deficiency anemia is the type most commonly encountered and is usually due to chronic hemorrhage. In women this is most frequently due to menorrhagia and in men to bleeding from the gastrointestinal tract. When one observes a hypochromic anemia, the source of bleeding must be found and controlled. Such an anemia is best treated with iron orally in the form of ferrous sulfate, 0.3 gm. (5 grains) in enteric coated capsules before meals. If gastric symptoms develop, the medication should be given following meals; when they persist, then only one or two doses of 0.3 gm. each should be given daily.

*Simple Chronic Anemia.*—This variety of normochromic, normocytic anemia is usually due to persistent chronic infection. Ordinarily it is not severe, as the red blood cell count is rarely less than 3.0 per cubic millimeter and the hemoglobin about 10 grams. The most common site of infection is the urinary tract. With elimination of the infection, the blood will return to normal. When the anemia is severe, one or more blood transfusions may be given.

*Pernicious Anemia.*—The cause of this anemia is thought to be a decreased rate of red blood cell formation in the bone marrow. This is due to a diminished amount of vitamin B-12 which controls the rate of erythrocyte development. The deficiency arises because vitamin B-12 (the extrinsic factor) in the food is not absorbed in normal amounts as the result of a deficiency of the intrinsic

factor in the gastric secretion. The treatment is to administer vitamin B-12 intramuscularly in doses of 15 to 30 micrograms daily for ten to fourteen days, and thereafter once a week until the blood returns to normal. For most patients, the maintenance dose is 30 micrograms given intramuscularly once every thirty days. Folic acid should not be used in pernicious anemia as the neurologic manifestations are not benefited, and some claim that it may cause harm. No form of therapy is needed other than adequate amounts of vitamin B-12. If neurological changes are not present, they will not develop when this form of therapy is given and if such changes have been present for not more than one year, they will usually improve. Recently, oral preparations composed of vitamin B-12 and a concentrate made from hogs' stomach have been used. One such preparation is Biopar.® In my experience, although these products are potent, they are not as reliable as vitamin B-12 when given parenterally.

*Leukemia.*—Leukemia of any type is an invariably fatal disease. Recently various types of therapy have been introduced which often cause dramatic but temporary improvement. Chronic myelogenous leukemia is best treated with total body irradiation. If the spleen is greatly enlarged, then localized treatment should be given over this organ. Radioactive phosphorus (P-32) has an action similar to total body irradiation and is more convenient to administer. It does not, however, produce superior results. In the past few years, various antimetabolite drugs have been introduced which cause temporary benefit in patients with acute and subacute forms of the disease. Patients with this disease who have prostration and a high fever, however, should first be treated with Meticorten in doses of 15 milligrams four times daily, or an equivalent amount of cortisone. Although initial effect is gratifying, eventually relapses occur and finally the patient becomes refractory to the drug. The 6-Mercaptopurine in doses of 50 to

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150 milligrams daily may be given with satisfactory results. About one-half of the children and thirty per cent of the adults are improved greatly but temporarily with these drugs. Infections as they arise should be treated with antibiotics, and repeated blood transfusions are usually indicated.

*Anemias of Pregnancy.*—During all pregnancies there is normally a decrease in the red blood cell count and hemoglobin, due to an increase in blood volume. In the third trimester of pregnancy, the hemoglobin may be as low as 10 grams (64 per cent) and the red blood cell count may decrease to 3.5 million per cubic millimeter. These are normal values in pregnancy and no treatment is indicated. Occasionally a patient may develop pernicious anemia of pregnancy in which the blood picture resembles true pernicious anemia. This condition is not benefited by vitamin B-12 therapy, but is readily controlled by oral folic acid when given in doses of 10 milligrams three times daily. A more common type of anemia in pregnancy is one of iron deficiency which yields promptly to adequate iron therapy.

*Use of ACTH and Cortisone.*—In two hematological conditions, idiopathic hemolytic anemia and idiopathic thrombocytopenic purpura, steroid therapy has a specific action. We have employed cortisone chiefly in doses of 75 milligrams four times daily or Meticorten in doses of 15 milligrams four times daily in these conditions. In the hemolytic anemia of this type, a beneficial effect resulted in almost all cases. When the blood returned to normal, the treatment has been omitted and the patient kept under observation. About 90 per cent of the patients have relapsed, and in these the drug has been given again, and the spleen removed. Following splenectomy the condition is controlled in about 80 per cent. In patients with idiopathic thrombocytopenic purpura, the blood may become normal in all respects with steroid therapy; when the drug is omitted, however, all but about 40 per cent of the patients relapse. In the latter, splenectomy controls the condition in about 84 per cent.

#### Infections and the Use of Antibiotics

*Antibiotics.*—Reviews of various phases of antibiotic therapy appear periodically in the *Annual Review of Biochemistry*, *Annual Review of Microbiology*, *Annual Review of Medicine*, and in the

*Archives of Internal Medicine* and numerous other sources. It is not the purpose of this article to summarize currently accepted antimicrobial practices which soon may or may not be superseded. Rather the purpose is to emphasize basic principles requisite for the successful management of infectious diseases. Confidence in the validity of these principles has been derived from experiences with the "treatment failures" which are referred to the University Hospital. The eventual successful management of these patients can usually be ascribed to fulfillment of the following principles.

Daily experience demonstrates over and over again the importance of a carefully taken and thoughtfully analyzed history, and the irreplaceable value of a thorough physical examination. From the information derived thereby, and a knowledge of pathogenesis in infections, it is usually possible to arrive at a tentative clinical diagnosis. This is the first principle of successful antibiotic therapy—a working diagnosis is a prime requisite for proper selection of appropriate antimicrobial therapy, since eradication of infection by antibiotics is dependent upon the type and locus of the lesion and the characteristics of the organism involved.

The second principle is the necessity of confirming clinical impressions by appropriate laboratory diagnostic aids. Few, if any, infections require treatment before materials can be collected for future analysis, but many are the cases referred because the patient failed to respond to treatment for a hypothetical infection or was inadequately treated for an infection caused by an uncommon or resistant organism.

Thirdly, the bacteriology laboratory can offer critically important guidance to therapy provided that appropriate specimens are submitted, and the sensitivity of organisms responsible for infection are determined. This phase of planning treatment becomes especially important when strains of staphylococci, streptococcus viridans, or Gram negative bacilli are responsible for illness. In these circumstances not only is choice of antibiotic important, but the precise combination of antibiotics which yield maximal killing power can often be demonstrated by *in vitro* tests.

Finally, if the patient does not respond to a treatment program selected on the basis of laboratory confirmation of the clinical diagnosis and guidance in the choice of antibiotics, it is wise to increase the dose of antibiotics to the maximally tolerated limit. Some patients whose infecting organism appears discouragingly resistant by *in vitro* tests are cured by increasing the amount of antibiotic used. This situation is especially true for strains of organisms apparently resistant to penicillin.

It may seem incongruous to reiterate these simple principles, but in the past year no new antibiotic of proven value has appeared, and hence it seems more likely that immediate improvement in antimicrobial therapy will come about by a more

widespread adherence to principles of tested and proven usefulness.

**Poliomyelitis.**—The progress made in the prevention of poliomyelitis by vaccination, as reported in 1955, is a milestone on the way of medical science. The principle has been firmly established that a killed virus vaccine can induce protection against a virus disease which produces its effects by distant invasion from the portal of entry. It has been clearly shown that antibody produced by vaccination can block the invasion of the central nervous system by poliomyelitis virus, even though superficial infection of the gastrointestinal tract occurs. Thus the exposed vaccinated person is protected, although he may serve as a transmitter of virus potentially hazardous to unvaccinated susceptibles in the community. It seems likely that in the near future control of poliomyelitis will entail the vaccination of that segment of the population which does not possess antibodies to all three types of poliomyelitis virus. Serologic studies on the epidemiology of poliomyelitis have shown that the rate, by age, at which antibodies to poliomyelitis virus are acquired from infection, differs from place to place. Thus the requirements for vaccine can be expected to vary from area to area. Current evidence indicates that a safe vaccine of proven potency can be provided. Its use will reduce the incidence of paralytic poliomyelitis. While in limited supply, its use should be reserved for those at greatest risk.

**APC Virus.**—Important advances in the understanding of viral diseases of the respiratory tract have resulted from the isolation of the "APC" group of viruses, and their identification as etiologic agents in ARD (acute respiratory disease—an influenza-like syndrome most commonly recognized in recruit training centers), exudative non-streptococcal pharyngitis, and pharyngoconjunctival fever. These viruses do not cause the common cold. Their relationship to frequency of illness in the general population is still to be accurately assessed. Nevertheless, the frequency of antibody to these agents rises with age, and it is tempting to speculate that many of the non-influenza "grippe"-like illness seen in a busy practice may be related to infection by one of these viruses. If so, the outlook is encouraging, for vaccines have been prepared against some of the APC viruses, and the possibility of protection against infection with them is under study.

### Tuberculosis

During the ten years since the advent of streptomycin in the treatment of tuberculosis, there has been a significant decrease in the average period of hospitalization and a 75 per cent reduction in deaths from this disease in the United States. Though it is generally agreed that the management of tuberculous disease should be initiated on an in-patient basis, the continuation of treatment routinely is effected in out-patient departments. Differences of opinion persist as to the degree of bed rest that is suitable. Most patients are treated on a modified regimen.

The use of antituberculous drugs seems indicated in all patients with active tuberculosis. Combination therapy appears optimal, two drugs being as satisfactory as three or more. The most widely accepted combinations are those of streptomycin, 1.0 gm. twice weekly, with para-aminosalicylic acid, 12.0 gm. daily, and isoniazid, 200 to 300 mg. daily, with PAS daily. Streptomycin and isoniazid in combination are reserved principally for the acutely ill and those intolerant of PAS. Other antituberculous drugs are available. Viomycin 2.0 gm. twice weekly is a satisfactory agent for use in combination with PAS or isoniazid when the patient is intolerant or tubercle bacilli resistant to other agents. Oxytetracycline may serve as a substitute for PAS. Pyrazinamide and cycloserine are under investigation.

The use of tuberculostatic chemotherapy should be prolonged. A minimum of one year of continuous combination therapy is accepted. Most patients receive treatment for eighteen to twenty-four months. The careful evaluation of sputum and the performance of *in vitro* susceptibility studies on the organisms recovered are mandatory. Methods of reversible collapse therapy are not widely employed. Some clinics continue to use pneumoperitoneum especially for treatment of bilateral cavitary pulmonary involvement.

Better surgical techniques and superior methods in anaesthesiology have permitted tremendous strides in the surgical intervention in patients with pulmonary tuberculosis treated with antituberculous drugs. Though irreversible collapse of the thoracoplasty type continues important most surgical therapy is excisional. The majority of patients are receiving segmental resections. Debate

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continues as to the indications for excisional surgery. The well-stabilized non-cavitary residual disease appears to relapse no more frequently after prolonged chemotherapy than does the remaining disease in resected cases. Persistence of cavitary disease positive sputum or well localized residual necrotic foci, however, constitute indications for surgery. Only the significant areas of disease are excised, if this is possible. Sometimes bilateral resections are performed. Pulmonary function limits markedly the use of surgical therapy for extensive disease and in the older patient.

Extrapulmonary tuberculosis responds well to antituberculous chemotherapy. The mortality from miliary and meningeal tuberculosis has been reduced markedly. The value of the prolonged use of these drugs for renal, osseous, enteral and lymph node involvement has been firmly established. Surgical intervention in osseous disease usually is indicated, but this is less commonly necessary for renal involvement.

Tuberculous disease continues to present a challenging problem to the medical profession. Eradication therapy is the eternal hope. The life expectancy of tuberculous patients has been extended, but this is resulting in an increasing prevalence of the disease in our communities.

### Hypertension

*Etiology and Prognosis.*—From the clinical standpoint no major advances in our understanding of etiology or pathogenesis have appeared recently. Wide acceptance has not been accorded the view of Pickering<sup>1</sup> that high blood pressure is not a disease but a graded individual characteristic conditioned by heredity and environment. Death from this condition is the result of the vascular damage which unusually high and sustained blood pressure engenders in the individual so unfortunate as to carry blood pressure levels higher than the average. His writings do, however, conform to the majority view that sustained high blood pressure does induce vascular disease and that blood pressure reduction, by whatever means achieved, will prolong life. As would be expected, the prognosis varies widely but in general parallels the magnitude of the vascular complications.<sup>2,3</sup>

*Treatment.*—There continues to be wide differences of opinion concerning the usefulness of various regimens. For the milder cases, *rauwolfa alkaloids* in properly applied and maintained dos-

age are agreed to lower the blood pressure more than 20 mm. in about 50 per cent of cases. Sometimes the results are dramatic. It is less effective in cardiac disease and should be used only in conjunction with other more potent agents when the accelerated or malignant form is being treated. Depressive states are the only serious side effect of *rauwolfa* therapy, but this reaction is fortunately rare.

*Hydralazine and veratrum alkaloids* have generally lost favor as more potent agents have been introduced. Apresoline<sup>®</sup> is used in combination with ganglionic blocking agents by some clinics,<sup>4</sup> but little convincing evidence has been presented that the depressor action of the combination is superior to that of the ganglionic blocking agent given alone.

*Sympathectomy* has lost favor in most clinics, but accumulating survival statistics still indicate it is the only form of therapy which, when successful in reducing blood pressure, is known to prolong survival in all forms of the disease.<sup>5</sup> At the University Hospital it remains the treatment of first choice in the young person with severe hypertension, the patient with early neurological signs or symptoms, or the malignant hypertensive; not because it has peculiar virtues in itself but because it seems the most effective way of lowering the blood pressure continuously in many persons unwilling or unable to submit to prolonged and arduous medical treatment. Significant and lasting improvement will occur in at least 40 per cent of patients operated upon by the more extensive one-stage procedure recently introduced at the University of Michigan Hospital by Dr. Edgar Kahn and his associates.<sup>6</sup>

Prompt blood pressure reduction is now considered mandatory in patients with severe degrees of hypertension (i.e. exceeding 130 mg. Hg diastolic) who have (1) hypertension with papilledema or fresh retinal exudates (provided the NPN does not exceed 80 to 90 mg. per cent) and (2) severe hypertension with left ventricular failure or with focal cerebrovascular episodes either transient or with minor residuals. Such reduction is probably advisable when the blood pressure is equally high in a young individual even before a vascular lesion has developed. While a sympathectomy when successful is the most satisfactory method of inducing a persisting and significant blood pressure reduction, *ganglionic blocking agents* such as pentolinium (Ansolsen<sup>®</sup>) are more com-

monly used for this purpose. The therapeutic aim is to increase the daily dosage to such a level that the patient's minimum standing blood pressure, taken at the time of maximum effect after each dose, has fallen to the lower tolerated levels (usually 120 to 140 mm. systolic).<sup>7</sup> If absorption is variable by the oral route, 1/20th or less given by injection may be effective.

Recently, an isoindoline derivative (Ecolid<sup>®</sup>)<sup>\*</sup> has been introduced which has a more prolonged action (twelve hours), is more dependable, but affects vision more markedly. The equivalent of one-third of the total daily dose of Ansolysen<sup>®</sup> given morning and night are sufficient in the average patient to achieve blood pressure control, but tolerance and the side effects of ganglionic blockade are still troublesome. Sometimes, to bypass the constipating effects, Ecolid<sup>®</sup> may be given by injection twice daily in 1/10th to 1/20th of the oral dose. Because of its longer action span, this form of treatment is generally the most effective in managing cases resistant to other drugs or routes of administration.<sup>8</sup> Here again the dose must be increased until the minimum standing blood pressure (usually one hour after subcutaneous injection) is below 120 to 140 mm. Hg systolic.

Finally, in the opinion of this reviewer, the most useful ganglionic blocking agent to be introduced is mecamylamine (Inversine<sup>®</sup>).<sup>\*\*</sup> This drug is completely absorbed when given by mouth and has such a gradual onset and offset of action that a continuous and effective level of blockade can readily be achieved by 10 to 15 mg. twice daily. Parasympathetic effects are still prominent, however, and the patient must accept them as the inevitable consequence of effective treatment. The decision to use ganglionic blocking agents should not be made until the doctor is convinced they are necessary for prolongation of life. Then the most effective regimen must be promptly commenced and the effect monitored constantly by doctor and patient, preferably by instructing the latter in the taking of his own blood pressure and in controlling the daily dosage accordingly. That the life of a patient with malignant hypertension, for example, may be prolonged almost indefinitely by such treatment, is the most important recent advance in the field of hypertension.

\*Frederick Yonkman, M.D., Ciba Co., Summit, N. J., supplied the Ecolid used in the investigations quoted.

\*\*Sharpe & Dohme, West Point, Pennsylvania, has provided Inversine for the studies reported herewith.

### Heart Disease

Congenital heart disease continues to be a very active and rapidly expanding field. Surgical techniques for the closure of septal defects and correction of other intracardiac lesions have been devised, but there is not general agreement as to the best methods to be employed. It seems likely that safe and simple methods for temporarily substituting some kind of source of oxygenated blood for the heart, thus allowing the surgeon to open the heart and correct one or more intracardiac defects in a bloodless field, will be the final answer to many of these problems. Lillehei and associates at Minneapolis have made great progress in this direction, and cross circulation techniques, possibly combined with hypothermia, seem to offer great promise.

Rheumatic heart disease is still a major problem. Surgical treatment for rheumatic valve lesions, especially mitral stenosis, has become an accepted part of treatment, and many patients have been greatly benefited by surgery. Operative results are generally good today because of improved criteria for selection of patients and better surgical techniques. Although surgery offers much to patients with chronic rheumatic heart disease, it is not the answer to the whole problem. This may, however, be found in the prevention of initial attacks and recurrences of acute rheumatic fever. Due to the work of Rammelkamp and others we already have the tools to do the job, but the big difficulty is putting the tools to work adequately. Rheumatic fever can be prevented by early and proper treatment of beta hemolytic streptococcus infection with penicillin or other antibiotics. Only widespread co-operative programs involving physicians, public health and nursing agencies, schools, particularly the teachers, parents, and even the children, can achieve success in this very important endeavor.

Hypertensive heart disease will be treated successfully only when adequate therapy for essential hypertension is discovered. Although the hypotensive drugs and other types of treatment increase the life span and offer considerable symptomatic benefit to this large group of patients, current management of hypertension is unsatisfactory and probably will continue to be until its cause is more completely known. Only then can specific, curative treatment be developed.

Coronary artery disease and atherosclerotic vascular lesions in other vital organs have been the subject of intensive study and innumerable papers

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in recent years. The blood cholesterol, other lipids in the blood, and the endocrines, particularly male sex hormones, have been pointed to, sometimes in dramatic fashion, as predisposing or causative factors in these degenerative vascular disorders. At the present time, however, it is doubtful if rigid restriction of cholesterol intake in the diet, attempts to reduce other lipid fractions in the blood, or efforts to make women out of men are justified. It has been well said that Americans and other highly prosperous groups are eating themselves into their graves; and whether coronary disease is related to overeating of animal fats or to other things, there can be little doubt that all of us, especially individuals with coronary disease or history of coronary disease in the family, should avoid obesity.

### Gastroenterology

Contributions in the field of gastroenterology, while rather diversified through the past two or three years, seem to have centered upon lesions of the esophagus, disturbances of absorption in the small bowel, treatment of liver coma and diagnosis of portal hypertension.

**Peptic Esophagitis.**—Clinical evaluation along with closer endoscopic studies of the esophagus, more careful attention by radiological techniques and physiological observations have shown that peptic esophagitis is not uncommon. This disease is dependent upon regurgitation of gastric contents through a patent gastric cardia into the lower portion of the esophagus. Any condition producing a patent cardia is capable of permitting this passage of gastric contents into the lower esophagus. Such conditions as hiatus hernia, surgical procedures on the esophagus, aberrant gastric tissue and the loss of tone constitute etiological factors. These patients develop a burning sensation on swallowing, which is characteristically accentuated at night after going to bed. It may be relieved by alkali although not consistently so. Seldom does the disease become serious, but it can prove most annoying and disturbing. The diagnosis is established most readily by a careful radiological examination of the esophagus showing the corkscrew appearance of the lower portion of the esophagus, sometimes associated with a hiatus hernia. Esophagoscopy is distinctly important in the establishment of the diagnosis, particularly when a biopsy is obtained and neoplasm is elimi-

nated. Therapy is largely that of neutralization of the stomach contents and frequent small feedings. One item of distinct value is to have the patient sleep in a head-up position at night; this mechanically prevents bathing of the lower esophagus with gastric juice. Surgery can be employed, but most cases will respond without it.

**Pancreatic Function Tests.**—It still remains true that pancreatic function tests are difficult to interpret and somewhat inefficient. Yet, coupled with the clinical picture, their use is imperative. Since disturbances of carbohydrate metabolism are the most common abnormality, a glucose tolerance test should be performed whenever possible. The serum amylase, lipase, and urinary amylase also have some value. The most recent test, introduced by Althausen, a so-called "starch tolerance test," involves the administration of 100 grams of starch in water followed by determination of blood sugar at regular intervals. This makes it a comparatively simple test, although the starch is sometimes difficult for the patient to tolerate.

**Gastric Carcinoma.**—The one diagnostic feature that is still attracting interest is that of cytological examination. Newer techniques are being employed with some encouragement. When the carcinoma cells can be clearly identified in clumps from the gastric washings, diagnosis can be established. The whole procedure, however, remains somewhat cumbersome and technically difficult and for that reason has not achieved great popularity. Progress is being made in the field of tubeless gastric analysis through the use of Diagnex and Azure-A. Further information needs to be obtained regarding the efficiency of such a test, but in a preliminary way it appears that achlorhydria can be accurately determined by this tubeless method.

**Liver Disease.**—The splenoportogram has been of invaluable aid in establishing the diagnosis of portal hypertension and in the selection of cases suitable for shunt operations. It is true that this procedure is carried out in a limited number of radiological laboratories. However, where the technique can be accomplished, the portal system can be visualized effectively and the collateral circulation can be demonstrated. In the presence of portal hypertension, the dye is delayed from entering the liver and instead is readily visualized in the

collateral system. The esophageal varices can be demonstrated by this technique much more often than they can be visualized by direct endoscopic examination.

**Peptic Ulcer.**—The management of peptic ulcer remains very much the same. Care should be taken in patients receiving any of the steroid preparations for fear of reactivating any ulcerating disease of the gastrointestinal tract. However, with some care, diet and alkali, the danger is minimal. The anticholinergic drugs have been of value, but the physician should be cautioned to use all the other forms of diet and medication, in addition to the anticholinergic drugs and not depend upon drugs alone for the medical therapy in gastric and duodenal ulcer.

#### Arthritis and Rheumatic Diseases

The rheumatic diseases have attracted increasing attention in the past decade. For rheumatoid arthritis, an average of two or three new methods of treatment, hailed as important advances, are published in the medical (and lay) press each year. Enthusiastic trial of the suggested remedy is to be expected as long as rheumatoid arthritis remains a disease of unknown etiology and uncertain prognosis. But after early hope and optimism, disappointment has inevitably followed.

It is now accepted that, while cortisone or ACTH have a dramatic effect in suppressing the symptoms and the inflammatory activity of the disease process, their effect is in no way curative. The use of these hormones is not replacement therapy, but involves the production of sufficient hyperadrenalinism to suppress the body's reaction to the as yet unknown causative agent. All too often a satisfactory initial response to ACTH or cortisone will require progressively larger doses for its maintenance, with the associated dangers of more severe and prolonged hyperadrenalinism. These dangers are apparently as great with hydrocortisone and even with the more recently developed steroids. With prednisone (Meticorten-Rx) and prednisolone, we must expect all of the untoward effects associated with the older steroids, with the exception of those due to salt and water retention and to potassium loss. The intra-articular injection of hydrocortisone acetate avoids the undesirable effects of systemic steroid administration, but is applicable to relatively few patients with persistent involvement of one or a few larger joints.

Phenylbutazone (Butazolidine-Rx) presents an even more difficult problem regarding its use. There is no doubt that many patients derive great relief from it, but it seems equally certain that its effects are primarily analgesic. It is clearly and consistently superior to salicylates only in rheumatoid spondylitis and in gout; in the latter condition its effect on acute attacks rivals that of colchicine. But the drug is potentially dangerous; and it has not yet been established that the feared complication of agranulocytosis can be avoided by limiting dosage and careful clinical and laboratory observations. Although gold salts have been used in this country for more than fifteen years, unquestioned evidence of their value in rheumatoid arthritis has not been forthcoming. The dangers of chrysotherapy are well known. While it has withstood the blizzard of clinical skepticism better than most, its reputation is somewhat tattered.

How then can we speak of "advances" when new drugs prove disappointing and limited in their application? The real advance is one in knowledge of the disease; we should have learned by now that it is most unlikely that rheumatoid arthritis will ever be "cured" by any one specific treatment. We should realize that the most important factors in handling the rheumatoid arthritic are the education of the patient in the problems to be faced, the use of analgesics and physical therapy to relieve pain and maintain joint function, and careful attention to any and all factors bearing on the general health of the individual patient. The advantages and limitations of the special treatment measures have been more accurately defined, so that their use in selected patients is of real value. But they very definitely represent additions to, rather than substitutes for, the established methods of proven value.

We now have considerable knowledge of the natural history of rheumatoid arthritis, and know that remissions and relapses must be expected. Ability to distinguish it from other forms of arthritis and non-articular rheumatism has improved, largely due to a better classification of the many diseases which fall under the heading of "rheumatism." Clinical laboratory and histologic evidence provide ample proof that rheumatoid arthritis is a systemic disease, and that the involvement of connective tissue is not restricted to the joint structures. Appreciation of the fact that it is the connective tissue which is primarily involved in many of the rheumatic diseases has led to intensive study

of the chemistry and physiology of both ground substance and collagen; it can be expected that such research will contribute to our knowledge of several of these poorly understood diseases.

The ancient and quixotic disease of gout has also yielded answers to some of its mysteries. Genetic studies have established the hereditary nature of the biochemical abnormality which underlies gout, and isotope tracer studies give promise of defining the metabolic abnormality which gives rise to the characteristic hyperuricemia. While colchicine remains the most reliable and practical drug for treatment of acute gout, the effectiveness of corticotropin, phenylbutazone, and newer colchicine derivatives provides welcome alternatives in the occasional resistant or sensitive patient. Probenecid (Penemid-Rx) has proved to be a safe and effective uricosuric agent; its use offers real hope for prevention of the late complications due to urate deposition in bones, soft tissue and kidneys.

### Allergy

Recently there has been interest in the use of Metacortrandracine (Prednisone) and Metacortandralone (Prednisolone) in the symptomatic treatment of allergic disease. The purpose of this brief report is to summarize some of the metabolic studies and to give an impression of the use of these drugs in allergy.

Both Metacortrandracine and Metacortandralone will cause a reduction in the twenty-four-hour urinary 17-keto-steroid excretion. They will induce an eosinopenia. Water and sodium retention and potassium depletion have not occurred in patients studied by us when the daily dosage has been less than 30 mg. All asthmatic patients on long term therapy gained weight (3 to 36 pounds). The weight gain apparently is the result of general improvement of the patients and is not related to sodium and water retention. The vital capacity determinations of the asthmatic patients increased while maximum improvement usually occurred after three to seven days of therapy. An increase in the systolic blood pressure of 20 mm. of mercury occurred in one asthmatic patient and 30 mm. of mercury occurred in another.

In seventy-six asthmatic patients Metacortrandracine and/or Metacortandralone proved to be an effective therapeutic agent. In three patients

the medication was ineffective and was discontinued because of undesirable side reactions. Maintenance dosage for therapeutic control usually varied from 5 to 15 mg. daily. One patient has required 25 mg. daily and two patients have needed 20 mg. per day. When these drugs are discontinued most of the patients have had a recurrence of their asthma.

Patients with perennial allergic rhinitis, seasonal hay fever and atopic eczema can be controlled symptomatically with these compounds. When the medication is stopped, most of these patients also had a recurrence of their symptoms.

Important side reactions such as moon facies, sleeplessness and varied gastro-intestinal disturbances are commonly seen with prolonged administration of Metacortrandracine and Metacortandralone. Substitution of these drugs in selected instances, however, may result in improvement of the Cushing's syndrome previously induced by other corticosteroids.

It should be emphasized that although Metacortrandracine and Metacortandralone appear to have certain advantages over the older corticosteroids, they do not replace older accepted procedures of elimination and hypersensitization. Prolonged administration of these compounds entails many of the same metabolic hazards as other adrenal corticosteroids.

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# The Progress of Surgery

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## Case Report

MRS. J. H., a forty-nine-year-old white woman from Galesburg, Michigan, was admitted to the hospital on January 15. Two years prior to admission a small lump appeared in her left breast which continued to grow quite rapidly. In the preceding three or four months it had become very hard and shortly began to suppurate. At the same time a dull, heavy pain began in the tumor which was slight and of no sharp variety. There had been no swelling in the arm pit. Her general health had been good in the past. Menses had been very irregular and when they did flow a great amount of blood was lost. Nothing of this kind had occurred in her family history.

Professor Maclean examined the patient and was of the impression that the tumor was decidedly malignant. She was informed of this, as well as of the possibility of recurrence after removal. Operation was advised, which the patient accepted.

Chloroform anesthesia was used and operation performed on January 15. An elliptical incision was made about the tumor, which was removed with no considerable hemorrhage. The lymphatics from the axilla were also removed. So much skin was removed that a large gap was left. This was closed under some tension and the patient caused to sit upright in bed (postoperatively). Antiseptic dressing was used in the operation.

The patient had considerable pain following recovery from anesthesia which was controlled by morphine. Her initial postoperative course was uncomplicated and wound healing was satisfactory. The tumor was examined by the pathologist, Professor Stowell, who pronounced it scirrhus growth.

During her convalescence it became apparent that the patient also had a cancer of the uterus which had "discharged" before the tumor was noticed in the breast. This information had been withheld by her at the time of her initial examination. She grew progressively weaker from the "effects of cancerous deposit in her system" and died on January 29, 1881. Autopsy was not performed.

## Discussion

This case report is quoted from the records of the surgical clinics of the Department of Medicine and Surgery of the University of Michigan of 1880-1881. The medical school had been in existence

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for thirty-one years.<sup>1</sup> Dr. Donald Maclean was the third professor of surgery, having been preceded by Drs. Moses Gunn and Wm. Warren Greene. A wooden pavilion type hospital, built in 1877, provided adequate if not elaborate hospital facilities. There were no surgical residents as we know them today, although there was a house surgeon who cared for the patients in the absence of the professor. During the year, 255 patients visited the surgical clinic but only a minority of these were operated upon. The operations were carried out skillfully but knowledge of preoperative and postoperative care was practically nonexistent. There were separate departments of ophthalmology and of obstetrics and gynecology but Doctor Maclean cared for all the rest of the surgical patients. The medical students, one of whom was William J. Mayo, witnessed the infrequent operations and autopsies from the gallery of an amphitheatre.

## Progress of Surgery Prior to 1881

Professor Maclean and other surgeons of 1881 stood upon the threshold of many exciting developments soon to come in surgery but by the same token had a rich heritage upon which to draw for guidance in their own problems. Although it is not our purpose to review all of surgical history, it is not remiss to pay brief tribute to some of those who bore and nurtured the spirit of scientific inquiry in surgery for us prior to that time. "In the field of observation, chance favors only the mind that is prepared." (Louis Pasteur)

Hippocrates, that versatile Greek of the fourth century B.C., was no stranger to the problems of the surgeon and well deserves the appellation of "The Father of Medicine."<sup>2</sup> He was among the first to recognize that disease is due to natural processes, and he performed cranial trephine, tracheal intubation and hemorrhoidectomy and managed fractures by reduction and traction. His major contribution to surgery lies in the fact that he divorced medicine from philosophy and brought about the union of medicine and surgery which, despite periods of separation and misunderstand-

## PROGRESS OF SURGERY—DE WEESE

ing, persists in a state of more or less blissful harmony.

To Galen, a Greco-Roman of the 2nd century A.D., goes credit as the originator of research methods, the life-blood of every medical specialty. He was a prolific writer in the fields of philosophy, mathematics, grammar, and law, as well as in medicine. His excursions into anatomical dissection and into the physiology of the gastrointestinal tract, the circulation, and the nervous system, were objective to a surprising degree. Although many of his observations were later repudiated in the light of more accurate knowledge, with him surgery attained a height of respectability which it soon lost and could not regain for thirteen confused centuries.

During this ensuing period of almost absolute scientific sterility, the factual teachings of Galen survived, but his major contribution, the spirit of investigation, was all but lost. The inaccuracies of his hurried observations serve less to dim his stature than to condemn the lethargy of those who followed.

To Ambroise Paré (1510-1590) and Andreas Vesalius (1514-1563) we owe our thanks for picking surgery up by the boot straps and again placing it in a position favorable to its further progress. Paré, who arose from the rubble as a barber-surgeon, exemplifies the wisdom and ingenuity in the contributions of the many excellent clinical surgeons who were to follow him. Vesalius brought about the happy reunion of the surgeon with the laboratory.<sup>3</sup> Recognizing serious discrepancies between his own observations and those of Galen, he returned to the dissecting room for clarification of his problem. Under his stimulus, an accurate knowledge of anatomical detail evolved which has served as the keystone of subsequent surgical progress.

Surgery has since developed slowly upon the ripples of an ever-widening circle of scientific knowledge. Progress has been sporadic and growth in any period dependent on the balance achieved between the spirit of investigation as exemplified by the laboratory and the clinical application of the new knowledge. One serves to stimulate the other and knowledge is where you find it—"chance favors the mind that is prepared."

William Beaumont, carrying his "laboratory" on his back at Fort Mackinac in 1822, found his stimulus in the traumatic gastric fistula of Alexis St.

Martin, and became the first important surgical physiologist. How many surgeons before him had regarded the care of such a wound as only an odious duty?

Crawford Long, out of compassion for the miseries of the patients on whom he operated in a small Georgia town, first employed ether (1842) in the performance of a surgical operation. William Morton, with the facilities and obstacles of a great medical institution at his disposal, made the same contribution independently in 1846. The senseless argument as to which man should have the credit for the discovery of general anesthesia has fortunately long since been forgotten. To each we owe deep gratitude for opening new vistas in the surgical care of patients.

Many fundamental advances in surgery have come through the judicious utilization by the surgeon, in response to observed clinical need, of knowledge acquired by the painstaking efforts of scientists in other fields. This is nowhere better illustrated than in the evolution of asepsis. Joseph Lister, suspecting that suppuration is not inherent in wounds, in 1865 sought for environmental causes of this phenomenon. His search for knowledge led him to the work of Louis Pasteur, who eight years earlier had shown that fermentation was due to the action of minute organisms introduced into sugar media from the air. By applying this knowledge to his problem, Lister introduced antisepsis, which soon evolved into asepsis—and another giant stride in surgical progress had been made.

At the time of our case report in 1881, surgical thought throughout the world was influenced predominantly by Germany, and to a lesser extent by England. German scientists were attaining pre-eminence in all fields and carrying on enlightened investigation to a degree that has been surpassed only by the present activity in this country. Many fine hospitals and laboratories were built to which visitors flocked from all over the world. The impact of this vibrant force, which was to continue until its tragic and complete disintegration in the political upheaval of World War I, was felt in all fields of medicine. Many fundamental advances were made during this golden period, but the development of pathology, pioneered by Rudolph Virchow, had probably the greatest lasting effect upon surgeons. Imaginative German surgeons, led by Christian Billroth, were carried along on the

tide of this flood of collateral scientific development. Advances in surgical technique were initiated with a rapidity which has never been equalled, unless it be reached in the present phenomenal development of cardiovascular surgical techniques.

Evidences of many of these influences are apparent in Maclean's work. Anesthesia, ether as well as chloroform, was skillfully employed. "Listerism" or antisepsis had been readily accepted; it is probable that Maclean, who had studied under Syme, Lister's father-in-law at Edinburgh, was a willing convert to this innovation. Many of his contemporaries had refused to accept it as late as 1885. Silk sutures were frequently employed, and though this operation antedated Halsted's classic description of radical mastectomy by eight years, the importance of the removal of the axillary lymphatics during mastectomy for cancer of the breast was recognized. It is interesting to note that laparotomy for ovarian cyst, first performed without anesthesia by Ephraim McDowell in Kentucky in 1809, was performed by Maclean at this time, but that appendicitis, to be described by Reginald Fitz in 1886, went unrecognized. Apparently Maclean had little enthusiasm for inguinal hernia repair, as several needy patients were refused operation. This conservatism is understandable in that the historic independent descriptions of hernia repair by Halsted and by Bassini did not appear until 1889.

#### Progress in Surgery Since 1881

There have been many notable achievements in surgery during the past seventy-five years. It would be impossible for us to speak of all of these in their proper perspective, even though we were granted space to do so. The technical advances in all branches of surgery have been numerous and in many instances spectacular. We do not minimize their importance. Without the stimulus of the operating room, a surgeon worthy of the name is much like a captain without a ship; no matter how intriguing his dry land surroundings, he longs for the roll of the waves beneath him, and his potential for contribution is compromised.

Two events important to the development of surgery transpired before the turn of the century. The first of these, the opening of the Johns Hopkins Hospital in 1889, and of the Johns Hopkins Medical school four years later, had its influence primarily upon American surgery though its ultim-

mate effects were world wide. There were a number of excellent medical schools in the United States at the time, and those in Philadelphia, Boston and New York had attained maturity. This was a bold new venture in medical education, however, which attracted a nucleus of highly selected professorial talent. Michigan itself contributed four of its graduates to the original faculty of eight. Two of these, Abel in pharmacology and Howell in physiology, were teaching in Ann Arbor at the time they were called to Johns Hopkins. William Halsted, who had been graduated from the New York College of Physicians and Surgeons in 1877 and had spent several years in post-graduate study amidst the burgeoning German scientific spirit, was appointed professor of surgery. His ability was already evident in a number of important contributions made while practicing in New York. Quick to seize upon the opportunity provided by the new environment, Halsted established innovations in surgical technique, training, and investigation based upon his use of the nearly forgotten experimental method, innovations which continue to exert an important influence on surgeons even today.

The second development of major importance in this period was a product of the physics laboratory and of the genius of Conrad Roentgen—the discovery in 1895 of the roentgen ray. This great contribution opened up many remote areas of the body to precise and accurate preoperative diagnosis which had never before been possible, and added refinement of diagnosis to more superficial areas. To Walter Cannon, a medical student at Harvard at the time and later an outstanding physiologist who made a number of contributions which were important to surgery, goes a portion of the credit for his introduction of contrast media in the visualization of the gastrointestinal tract. With this, the final restraint to the rapid development of surgical operations in all but two regions of the body was lifted, and surgeons eagerly leaped to the challenge. When Walter Dandy introduced cerebral ventriculography in 1918, one of the two remaining frontiers was opened, and neurosurgeons energetically moved into the deep recesses of the brain. Now, thanks to the improved knowledge of cardio-respiratory physiology and of anesthesia, the last apparent frontier for technical surgery, the interior of the heart, is putting up its final resistance. Soon many an old Indian fighter will be talking of the past glories in the winning of the West!

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Although overshadowed by the drama of technical advance, surgical progress has been moving quietly forward along other avenues. Despite considerable effort on the part of a few, attainments in these fields have been won only slowly. We speak of the growth of the spirit of investigation as typified by the surgical laboratory and of the post-graduate education of the surgeon. Both have had a tremendous influence on surgical progress during this century.

*Influence of the "Surgical Laboratory."*—A constantly increasing stream of fundamental and useful information is today coming from the surgical laboratories, particularly those devoted to study of the complex physiological disturbances associated with surgical diseases and trauma. The rapid advance to technical perfection left a big void in its wake. Thoughtful surgeons of the past generation, seeking to reduce the hazards of operation and to speed the recovery of their patients, looked to the basic medical sciences for solutions to vexing clinical problems. All too frequently the basic scientists were found wanting because of their unfamiliarity with the everyday problems of the surgeon, and because of their preoccupation with more theoretical projects. Ill patients could not very well be transported to the remote basic science laboratories with the hope of a hospitable reception. So gradually over the course of the years the laboratory has been moved to the patient, in spirit as well as in deed.

There are many fine surgical laboratories in the country today, each directed toward solution of problems of immediate concern to the individual surgeon or group. Consultation in research problems is as frequently requested and as graciously rendered by other fields here as it is in clinical practice. Whether the effort is directed toward solving the mysteries of the metabolic effects of trauma, or those of renal physiology or of the surgically-virgin cardiovascular system, is not of major consequence. Rivalry is keen and research activity is intensely and healthily competitive. As a new problem presents itself, guns are brought to bear from many different vantage points and firing persists until the problem is solved or found insoluble for the present. This activity is reflected in a perusal of the program for the Forty-first Annual Clinical Congress of the American College of Surgeons this year.<sup>4</sup> Some forty-two original reports of investigations into problems relating to

the heart and great vessels were given at that meeting. Half that number were directed toward clarification of metabolic responses to various types of surgical disease or trauma. These contributions, as well as others in all facets of surgical interest, including radioisotope techniques, were made predominantly by surgeons, many in resident training but some even by medical students. The blind spots in our surgical vision are thus being slowly but relentlessly dispelled.

We do not disparage the many fine contributions of the professional nonsurgical scientist. Claude Bernard's basic concept (1878) of the dependence of the living organism on its internal liquid environment rather than on its external environment opened the door to all later knowledge of fluid and electrolyte balance. Physiologists, biochemists, pediatricians, endocrinologists and internists as well as surgeons have moved through the open door to make important contribution to our knowledge in this field. The tremendous and enduring contribution that surgeons have made in correlating and supplementing this knowledge so as to make it therapeutically beneficial to the surgical patient requires no amplification here.<sup>5</sup>

The surgeon-physiologist Alexis Carrel during a most productive period extending from 1902-1914 introduced many original techniques which have been basic to the development of cardiovascular surgery.<sup>6</sup> He perfected the technique of end-to-end suture of blood vessels and successfully carried out transplantation of preserved homologous blood vessels. Working with the French surgeon Tuffier, he successfully performed cardiac valvotomy in experimental animals. Carrel was fifty years ahead of his time in these observations, but it is interesting to speculate as to how much more rapidly the "sound barrier" in cardiovascular surgery might have been broken had he been endowed with the therapeutic viewpoint of the surgeon in addition to his many other talents. And the fact remains that the inquisitive surgeon is by and large left to his own devices for filling the gaps in knowledge or correcting fallacious concepts brought to light by his daily clinical problems. Though aided by contributions from many fields, new and old, the care of the sick is the responsibility of the physician, a responsibility that includes the constant translation of new and technical scientific jargon into useful and clinically applicable therapeutic measures.

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ment in recent years has been its movement into the field conditions of the war zones. The unfortunate catastrophic casualties of war have throughout history provided a rich source of clinical material for the study of the effects of trauma. Many clinical observations have been forthcoming from these experiences, but wars in the main have served only as proving grounds for developments previously recognized. One need only cite our experiences with antibiotics, tetanus toxoid, and stored whole blood during the second World War in support of this. Under the duress and uncertainties of actual combat, little opportunity has been provided in the past for the study of fundamental problems.

American surgeons in company with other scientists have always served willingly in the capacity in which they could be most helpful during the periods of national emergency. A voluntary organization, the National Academy of Sciences, made its appearance during the Civil War in response to the need of the Union government for co-ordinated scientific advice. This Academy was perpetuated and grew into the National Research Council in 1916, which organization has continued to the present time. Surgery has been well represented on this council, and surgeons have served faithfully and enthusiastically in evaluating the clinical problems of war and directing their solution.

Many surgical problems encountered during wartime in the past have been delegated to civilian laboratories, far removed from the war zone, for study. This policy has been fruitful and helpful. When the mortality rate from empyema reached the catastrophic level of 40 per cent during World War I, an Empyema Commission was appointed to investigate the problem. This commission, headed surgically by Dr. Evarts Graham, was assigned to work in the established laboratory at Johns Hopkins University. Following fundamental research there, recommendations were made which paid the immediate dividend of a ten-fold drop in the mortality rate of empyema. The delayed dividends represented in this stimulus to the development of thoracic surgery are inestimable. The fact remained, however, that the potentialities for objective study of the physiologic effects of trauma and other surgical problems encountered among the wounded were dissipated by the inaccessibility of the laboratory to the sur-

gical research mind at the geographic site of the problem.

There has been an increasing awareness among thoughtful surgeons of these lost opportunities; efforts to correct the situation are reflected, among others, in the studies of blood volume deficits of wounded soldiers in shock during World War I, and those of Trueta<sup>8</sup> upon the vascular shunts of the kidney following trauma during World War II. With the advent of air transport, the hiatus between the wounded patient and the laboratory has been constantly narrowed. The observations of the Board for the Study of the Severely Wounded in forward areas during the Mediterranean Campaign,<sup>9</sup> combined with the observations and experiences of the British, were interesting and important. Their immediate effect was to emphasize the superiority of whole blood over that of pooled plasma in the resuscitation of the wounded. In conjunction with studies concomitantly carried on at home, the wisdom of volume-for-volume replacement of blood losses with whole blood was recognized. Reorganization of the mechanics of supply in quantity was rapidly effected with the saving of many lives. The delayed effect of this and similar studies was the development by the Armed Forces of an effective research organization with mobile laboratory facilities to bring the experimental method to the site of disaster.

This movement of the "laboratory" to war has reached its highest state of development with the U. S. Army's Surgical Research Team in Korea. Fundamental contributions to our knowledge of acute renal failure, hepatic and adrenal function, and gastrointestinal physiology, and to the management of burns, vascular injuries, and massive trauma have emanated from it.<sup>10</sup> More importantly, laboratory investigation at the battle front has proved feasible and useful. The prophecy and inspiration of Wm. Beaumont has reached fruition after 130 years!

*Influence of Postgraduate Surgical Training.*—Another great force in the progress of surgery in this century has been the increasing trend toward specialization. This move is not of course unique in medicine, but extends throughout other professional and vocational pursuits as well. Constant in-breeding within a limited field predisposes to a sterility of thought which is only prevented by a firm foundation of basic training and receptiveness to the views of others. Vigilance in this regard is

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ever necessary. One cannot deny, however, that specialization has brought a higher quality of surgical care to patients in the population at large and has stimulated concentrated investigation in the special fields. Its general effect has been a highly beneficial one. Specialization has by the same token posed many problems for the surgical educator and has created complex sociologic and economic conflicts within the profession, solutions for which are not readily apparent at present.\*

This trend in medicine is far from new, as physicians have tended to develop more concentrated interests in restricted problems of patient care throughout all history. The Egyptian Iry was known in 2300 B.C. as the "royal ophthalmologist" in addition to being "magician, specialist in intestinal diseases, and shepherd of the rectum."<sup>12</sup> Gynecology also established its separate identity early, Straton of Lampsacos acquiring a reputation as a distinguished gynecologist in Greece in 280 B.C. The gynecologist J. Marion Sims, who announced the cure of vesico-vaginal fistula in 1852, is one of the important historical figures in early American surgery. The initiative of these two specialties is reflected in the existence at the University of Michigan in 1881 of academic chairs in ophthalmology, filled by Dr. George E. Frothingham, and in obstetrics and gynecology, occupied by Dr. Edward S. Dunster. The latter is credited<sup>1</sup> with planning the pavilion hospital erected in 1877, which was the first University Hospital.

Surgery reached a high degree of specialization in Germany during its virile period at the turn of this century. Many Americans migrated to its professional shrines for instruction. Wm. Halsted was one of those who caught the import of this scientific spark, whereas others merely warmed themselves sufficiently to become self-styled specialists. Many of these, through their own abilities, went on to pre-eminence in surgical specialties as did still others who did not have the advantage of even this minimum postgraduate training but advanced their knowledge through self-instruction and preceptor-training.

Halsted, no doubt motivated by the German influence as well as by his own great intellect,<sup>11</sup> recognized the need for graded supervision in surgical resident training. Under him at Johns Hopkins a sharply competitive program evolved which stimulated the development of similar programs in other centers and has served as the model for the pyramidal system of postgraduate surgical

education. Halsted strived to train not surgeons alone but teachers of surgery who would be qualified to fill surgical posts in the rapidly developing educational centers of this country. In this, as in his other endeavors, he was pre-eminently successful.<sup>12</sup>

As the popularity of specialization increased it became apparent that standardization, or at least evaluation, of qualifications of the individual specialist was necessary to protect the patient from the unscrupulous few. In response to this the American Specialty Boards and the American College of Surgeons were organized in an effort to bring some order out of the developing chaos. Their origins were independent and the functions they carry out today are discrete.

The American College of Surgeons originated in 1913 as an association of surgeons in all the specialties. It defines not only minimum qualifications of surgical training but is an increasingly effective force in the continuing education of the surgeon. The formal training requirements for fellowship have become more severe through the years as surgical residencies have become more universally available and self-training or preceptor-training have become less desirable. This organization has done much to aid in the standardization of hospitals, to establish effective cancer control surveys, stimulate interest in the investigation of fundamental surgical problems, and to define ethical standards of conduct among its members.

The American Board of Ophthalmology, the first of the Boards, was established in 1917, followed by Otolaryngology (1924) and Obstetrics and Gynecology (1930). Since then, primary Boards, or affiliates of the American Board of Surgery (1937), have been established in all of the recognized surgical specialties. Although serving primarily to define the minimum standards of surgical training, they have provided a tremendous stimulus to postgraduate specialty training.

The influence of these two organizations, which are approaching unification of their minimum training requirements, was sharply manifested following World War II. Many young physicians, their formal training interrupted by long periods of duty in the armed forces, found that their abilities and opportunities were categorized in increasing frequency by civilian hospitals, as they had been in military assignments, on the basis of "Board Certification or its equivalent," and there-

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fore sought further surgical education. Under the impact of the times the Halsted pyramidal system of surgical training became obsolete in the eyes of some of our surgical educators. In the interest of providing well-rounded training to more young surgeons, whose basic talents are not usually so clearly demarcated as the pyramidal system presupposes, and of providing better surgical care to an expanding population, these men have sponsored a more vertical ascension of graduated responsibility in surgical resident training. Both systems have their staunch supporters. It is interesting to speculate as to whether Halsted, confronted by conditions as they exist today, would have adhered so rigidly to the pyramidal plan wherein only the select few reach the pinnacle. At any rate, the demands for supervised training in surgery are being met and standards maintained. Competent surgeons of high ideals are becoming available to all geographical and economic strata in the United States, and wherever possible our scientific wealth is being shared with enquiring minds from other nations in partial repayment for our own priceless heritage.

Many specific advances in surgery have been made in recent years and we apologize for not summarizing them in writing to our subject. We can only recommend the excellent Collective Reviews of Fifty Years Progress in various facets of surgery which have appeared in the *International Abstracts of Surgery* of the publication *Surgery, Gynecology and Obstetrics* during the past year and the comprehensive summaries which appear periodically in the *New England Journal of Medicine* for detailed reviews of these specific advances.

### Summary

Surgery is an art as well as a science. Technical advances may soon be superseded by different tech-

niques. The interpretation of laboratory findings may be significantly altered in the face of further data. But the needs of the surgical patient go inexorably on. The real progress in surgery rests in our ability to satisfy these needs, to recognize and solve the surgical problems, whatever or wherever they may be, and to provide the enlightened man power to carry surgical knowledge ever forward. Past effort has crystallized in recent years with great success, but we hope for an even brighter future as the experimental method becomes universally employed to solve the present unknown.

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### \$10,000 A YEAR?

A special article in *U. S. News and World Report*, November 25, 1955, "Does It Pay To Be a Teacher?" makes the statement that 41 per cent of doctors of medicine, 28 per cent of lawyers, and only 5 per cent of educators are making \$10,000 a year. In the next ten years we shall need 1,626,000 new teachers to replace the losses, and provide for the known increment of students. We are graduating 87,000 per year, but a great many of these never teach.

University professors averaged \$7,000 a year in 1953. Salary changes to date show a loss of 2 per cent in purchasing power. The average for railroad engineers in 1953 was \$7,352, and their present earnings' purchasing power has increased 57 per cent. High school principals had an average income in 1953 of \$9,156, and their present increase has a purchasing power down 30 per cent, while railroad executives who then averaged \$11,592 per year now have an increase of 11 per cent in relative purchasing ability.

# Aldosterone in Clinical Medicine Past, Present and Future

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THE time has arrived for clinicians to become aware of the increasing importance in clinical medicine of aldosterone, the newly discovered adrenal cortical hormone. It has been demonstrated that increased adrenal production of aldosterone is involved in the pathogenesis of a number of very common clinical disorders. That many more diseases will be found to be associated with increased or decreased secretion of this hormone seems abundantly clear. This prediction is based not only upon the numerous possibilities which exist but also upon the fact that clinical investigators have merely scratched the surface of this fertile field since the hormone was proven to exist and shown to be measurable. A still existent deterrent to rapid progress consists of the very difficult and laborious biological and biochemical procedures which are involved in such studies. Nevertheless, a vista important to all physicians is gradually coming into view.

The purposes of this brief review are: (1) to provide that small measure of historical information which is essential for proper orientation to the clinical problems, (2) to delineate and classify the various clinical states in which abnormal production of aldosterone is now known to exist and to speculate upon the existence of others, and (3) to describe in detail primary aldosteronism,<sup>1,2</sup> the newly recognized clinical syndrome. Emphasis is given to this condition because it is a serious hypertensive-renal-vascular disease and represents the one condition to date of the entire "aldosterone group" which can be completely cured.

## Discovery of Aldosterone

The history of aldosterone is still in the making. It goes back only to 1952 when Simpson, Tait and their co-workers<sup>3-7</sup> detected biologically and isolated chromatographically, from the "amorphous fraction"\*\* of adrenal cortical extract, something which caused intense retention of sodium and

diuresis of potassium in adrenalectomized rats. The potency of this material was so great that these investigators realized at once that they were not dealing with any of the known corticosteroids or with any combination of them. They<sup>8</sup> and Farrell and Richards<sup>9</sup> demonstrated the existence of this material in the adrenal venous blood of monkeys and dogs. This constituted good evidence that this substance was a normal secretory product of the adrenal gland. Because of its potent effect upon electrolyte metabolism (thirty times greater on sodium retention and five times greater on potassium diuresis than desoxycorticosterone) the material was tentatively given the name "electrocortin."

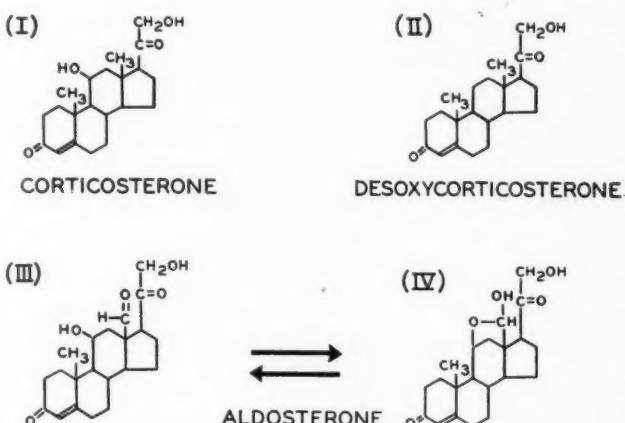


Fig. 1. Natural compounds exhibiting a preponderant activity upon electrolyte metabolism.

There then ensued in relatively rapid succession, isolation of the compound in pure crystalline form<sup>10-12</sup> identification of its chemical structure<sup>13-15</sup> and in July, 1955, actual synthesis of the compound.<sup>16</sup> Figure 1, III, indicates the chemical formula of aldosterone, the 18-aldehyde of corticosterone (Fig. 1, I). In solution a major portion of aldosterone exists as the hemiacetal (Fig. 1, IV). Desoxycorticosterone is shown, too (Fig. 1, II).

It is important to realize that much basic work

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\*The non-crystalline residue which remains after the known crystalline steroids have been removed. This residue had been known for many years to have high biological activity when tested on adrenalectomized animals.

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on the "amorphous fraction" of adrenal extract had already been done<sup>17,20</sup> and that the stage had been set for the brilliant discoveries of the 1952-1955 era.\*\*

### Clinical Background

From the clinical point of view, too, it had been suspected that the adrenal was capable of secreting a powerful electrolyte-regulating hormone, although it was assumed by many, without proper justification, that this steroid was probably desoxycorticosterone. The latter has been used to regulate electrolyte metabolism in patients with Addison's disease since Steiger and Reichstein<sup>21</sup> synthesized the compound in 1937. When cortisone and hydrocortisone became available for substitution therapy in Addison's disease it was quickly apparent that doses of these compounds adequate to normalize organic metabolism (protein, carbohydrate, et cetera) lacked the capacity to maintain normal metabolism of sodium and potassium. It was found necessary to give these patients desoxycorticosterone in addition to maintenance quantities of cortisone or hydrocortisone. Corticosterone (Fig. 1, I), however, was found to provide, in a single compound, good replacement therapy.<sup>22</sup>

In 1950 Deming and Leutscher<sup>23</sup> reported the presence of a sodium-retaining substance in urine of edematous nephrotics and cardinals. Leutscher and his co-workers<sup>24-30</sup> have continued to work diligently on this important problem and have culminated their studies with the recent demonstration<sup>31</sup> that the urinary sodium-retaining substance is, indeed, aldosterone.

In a series of reports which began in 1944, my associates and I<sup>32-38</sup> demonstrated that the concentrations of sodium and chloride of thermal sweat could be used as an index of the activity of endogenously produced "desoxycorticosterone-like" or "salt-active" corticosteroids. Using this index we made the following observations:

1. Under conditions of sodium deprivation in man (prolonged sweating and low sodium diets) the adrenals are capable of maintaining an excessive output of desoxycorticosterone-like steroids for long periods of time (months); and that this activity is not accompanied by any evidence of increased production of other types of adrenal steroids.<sup>35,37</sup> These experiments were repeated re-

cently,<sup>38</sup> this time with use of the newer urinary bioassay techniques. It was found that the "desoxycorticosterone-like" steroid produced in excess is aldosterone, indeed. Axelrad et al<sup>39</sup> have shown recently that severe restriction of dietary sodium leads to increased production of aldosterone, unaccompanied by evidence increased secretion of other adrenal cortical hormones.

2. Again, using the electrolyte composition of sweat as the index,<sup>36</sup> patients with panhypopituitarism were found to be producing almost normal quantities of the desoxycorticosterone-like steroids while patients with Addison's disease produced much less, if any. Leutscher<sup>28</sup> has shown recently that this relationship is true with respect to urinary aldosterone in these respective groups of patients.

3. Patients with Cushing's syndrome due to bilateral adrenal cortical hyperplasia showed only mild increases in production of desoxycorticosterone-like steroids while two patients with adrenal cortical cancer (one with Cushing's syndrome and one with adrenogenital syndrome) indicated the production of greatly excessive amounts of salt-active corticoids.<sup>38</sup> Venning et al<sup>40</sup> have reported recently that Cushing's syndrome associated with adrenal cancer gives large amounts of urinary aldosterone while that associated with hyperplasia shows no demonstrable increase.

4. Following surgical operations the sweat-electrolyte-index gave evidence of a greatly increased production of desoxycorticosterone-like steroids which continued for a considerable length of time in the postoperative period.<sup>41</sup> That aldosterone production is increased at this time has now been demonstrated by Llaurado<sup>42,43</sup> and by Venning et al.<sup>40</sup>

5. The following statement was made in 1949:<sup>36</sup> "It is predicted that some pathological conditions not yet linked to the adrenal cortex, as well as the physiological response to some forms of stress, will be found to be associated with a preponderant activity of the desoxy-like corticosteroids." These authors<sup>37</sup> singled out nephrosis, congestive heart failure, premenstrual edema and essential hypertension as diseases worthy of study in this regard, but stated<sup>38</sup> that "notable anasarca need not be an accompaniment of excessive production of desoxy-like corticosteroids." The recent discovery of the

\*\*Many investigations which contributed directly or indirectly to this background have been omitted.

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syndrome of primary aldosteronism<sup>1</sup> and the demonstration that an assortment of common clinical diseases exhibit excessive production of aldosterone have confirmed their suspicions.

### Present Status

Table I presents a tentative etiological classification of hyper- and hypoaldosteronism. Included are the clinical conditions now known to be associated with abnormal production of aldosterone. In addition, it will be noted that names have been given to conditions which are not yet recognized as existing. We believe that many of them will be found to occur.

Hyperaldosteronism is divided into two main subgroups, primary aldosteronism and secondary aldosteronism. The former is meant to denote an abnormality of the adrenal cortex which, *per se*, gives rise to secretion of excessive amounts of aldosterone. Secondary aldosteronism indicates a situation in which excessive production of aldosterone is the result of an abnormality which has arisen outside of the adrenal gland. The adrenal then responds normally to an intense physiological stimulus or stimuli capable of evoking increased secretion of aldosterone. Secondary hormonal secretory activities of this nature are usually compensatory and are designed to overcome or buffer a biochemical abnormality which has arisen.

A similar division into subgroups has been assigned to hypoaldosteronism, primary aldosteronopenia indicating an abnormality of the adrenal itself, and secondary aldosteronopenia representing a compensatory reduction of aldosterone production based upon an extra-adrenal abnormality.

### Secondary Aldosterone and Secondary Aldosteronopenia

The physiological mechanisms which increase and decrease adrenal secretion of aldosterone from the normal gland remain unknown at present. Thus, the precise stimuli, biochemical or physiological, which increase production of aldosterone in those diseases (nephrosis, congestive heart failure, hepatic cirrhosis, eclampsia idiopathic edema) associated with secondary aldosteronism are yet to be discovered. The answers are being sought diligently in many laboratories, for they will provide insight into the mechanisms of a large number of disturbances in electrolyte metabolism. The same statements apply to the projected group of dis-

TABLE I. ETIOLOGICAL CLASSIFICATION OF CONDITIONS ASSOCIATED WITH EXCESSIVE OR DIMINISHED PRODUCTION OF ALDOSTERONE.

- I. Hyperaldosteronism
  - A. Primary aldosteronism
    1. "Pure type" (normal production of hydrocortisone)
      - (a) Adrenal cortical adenoma<sup>1,2,47</sup>
      - (b) Bilateral adrenal cortical hyperplasia<sup>54</sup>
      - \*(c) Adrenal cortical carcinoma (not yet reported)
    2. "Mixed types" excessive production of hydrocortisone, too
      - (a) Adrenal cortical carcinoma<sup>40</sup>
      - (b) Adrenal metastases from bronchogenic carcinoma<sup>64,65</sup>
      - \*(c) Others will be described
  - B. Secondary aldosteronism
    1. With edema (normal production of hydrocortisone)
      - (a) Nephrosis<sup>31</sup>
      - (b) Congestive cardiac failure<sup>29</sup>
      - (c) Cirrhosis of the liver<sup>26,68</sup>
      - (d) Eclampsia<sup>45</sup>
      - (e) Idiopathic edema<sup>70</sup>
      - \*(f) Others will be described
    2. Without edema (normal production of hydrocortisone)
      - (a) "Salt-losing nephritis"<sup>69</sup>
      - (b) Dietary restriction of sodium<sup>39</sup>
      - (c) Intense sweating<sup>38</sup>
      - \*(d) Others will be described
    3. Transient aldosteronism (increased production of hydrocortisone)
      - (a) Following surgical trauma<sup>40-43</sup>
      - \*(b) Others will be described with other situations which induce "stress."

### II. Hypoaldosteronism

- A. Primary aldosteronopenia
  - \*1. "Pure type" (normal production of hydrocortisone)
    - (a) Not yet described
  2. "Mixed type" (diminished production of hydrocortisone, too)
    - (a) Addison's disease<sup>28</sup>
      - (1) Bilateral destructive lesions of adrenal cortices
      - (2) Idiopathic (primary) cortical atrophy
    - \*(b) ? Congenital adrenal hyperplasia with excessive renal loss of sodium.
- B. Secondary aldosteronopenia
  1. Transient—Probably exists after removal of an aldosteronoma as well as under other circumstances.
  2. Chronic—not yet described. Must await clarification of the physiological mechanisms which stimulate and depress secretion of aldosterone.

\*Indicates that author expects more information to develop at these points in the classification.

turbances which have been classified under the heading of secondary aldosteronopenia.

Since little is known, in a positive sense, of the mechanisms which control secretion of aldosterone from normal adrenal glands, there is at present no direct approach to the medical management of secondary aldosteronism. Obviously, bilateral ad-

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renalectomy would remove the source of aldosterone in cases of intractable edema associated with secondary aldosteronism. But there is no justification as yet for this procedure. If the secondary increase in aldosterone production proves to be compensatory, representing an attempt to normalize a presently undiscovered biochemical abnormality, the result may prove more deleterious than the persistence of edema. A rough analogy is seen in the diabetic under conditions of stress (surgery, injury, infections, et cetera). Stress produces in him, as in all people, secondary hydrocortisism. The latter is necessary if he is to survive the stressful experience. The increase of hydrocortisone, however, may cause great insulin resistance and an intense exacerbation of his hyperglycemia and glycosuria. Adrenalectomy can ameliorate diabetes mellitus but the associated consequences must be weighed against the apparent benefit to the diabetic state.

Administration of ACTH or cortisone to edematous nephrotics is frequently successful in producing great diuresis and, in fact, is capable of reducing urinary excretion of aldosterone.<sup>24</sup> How this comes about is unknown but a possible mechanism has been suggested.<sup>1</sup> A point of considerable interest and importance is the fact that aldosterone secretion is not predominantly controlled by pituitary ACTH, as are the other major products of the adrenal cortex. Hypophysectomy in the dog results in but a moderate decrease in the level of aldosterone in adrenal venous blood.<sup>44</sup> The level of hydrocortisone, however, falls abruptly and to negligible amounts. Normal levels of urinary aldosterone are found in patients with hypopituitarism at a time when they exhibit greatly decreased amounts of urinary 17-hydroxycorticoids and 17-ketosteroids.<sup>28</sup> Conditions can be arranged, such as deprivation of sodium chloride and severe, prolonged sweating, in which one can demonstrate a tremendous increase of urinary aldosterone, unaccompanied by any other evidence of increased adrenal cortical activity.<sup>38</sup> Administration of ACTH to man results in only minor elevation of urinary aldosterone as compared with the major increase that occurs with respect to 17-hydroxycorticoid.<sup>39,45</sup> Thus, the adrenal gland has the capacity to increase its output of aldosterone selectively. The mechanism by which this is brought about does not involve stimulation of the gland by ACTH, at least, not by the compound that we now recognize as ACTH. However, any stimulus which enhances

adrenal secretion of aldosterone would also have to be considered as an adrenocorticotrophic factor. Whether or not this factor is hormonal in nature must await further work. Since hypophysectomy produces only a minor decrease in the secretion of aldosterone, a non-pituitary stimulator must be involved. Changes in extracellular fluid volume, changes in plasma and tissue electrolyte concentrations, and changes in renal dynamics are probably involved in the regulation of aldosterone secretion. Since nothing more is known, this is the point at which the clinical syndromes associated with secondary aldosteronism must be left at present.

### Primary Aldosteronism

Primary aldosteronism is the one condition in the group of disturbances of aldosterone secretion which can be cured. The cause is an aldosterone-secreting adrenal cortical adenoma. Its clinical recognition is not difficult.

The syndrome was first described in October, 1954.<sup>1,2</sup> Since then a surprisingly large number of typical cases (at least 30) have been recognized clinically as being instances of primary aldosteronism,<sup>46</sup> and some of these patients are being readied for adrenal surgery. To date, we are aware of ten patients, including the original one,<sup>2</sup> who have had the typical clinical findings and in whom an adrenal cortical tumor has been demonstrated.<sup>47-53</sup> In six of the ten, determinations were made for urinary aldosterone.<sup>47,48,51,53</sup> All six showed very large amounts to be present. An eleventh patient is said to have shown bilateral cortical hyperplasia<sup>54</sup> and to have been cured by bilateral adrenalectomy. Three more cases have been recognized in retrospect, each patient having disclosed a single cortical adenoma at autopsy and each having suffered during life from primary aldosteronism.<sup>55,57</sup> The rapidity with which so many cases have been recognized following the original description of the syndrome suggests that this is not a rare disease.

The major clinical manifestations of this syndrome consist of periodic, severe muscular weakness, intermittent tetany and paraesthesia, polyuria and polydipsia, and hypertension. There is *no edema* nor any evidence of Cushing's syndrome.

The characteristic biochemical lesion in blood is comprised of hypokalemia, hypernatremia and alkalosis (elevation of pH and  $\text{CO}_2$  combining power). Total serum calcium is normal. Hyposthenuria, unresponsive to pitressin, persistently

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alkaline urine and mild proteinuria are observed. Bioassays for urinary aldosterone give extremely high values while urinary 17-hydroxycorticoids and 17-ketosteroids remain persistently normal.

Despite the periodic occurrence of severe muscular weakness, one is impressed with the relative lack of important symptoms at extremely low levels of serum potassium. Another striking manifestation of this syndrome is the great resistance which it offers against attempts at potassium repletion. With very large amounts of supplementary potassium, serum potassium rises, but only mildly. It seems certain that the condition which descriptively has been called "potassium-losing-nephritis"<sup>58-62</sup> is a manifestation of primary aldosteronism.

In the investigative laboratory the following findings, too, have been demonstrated:<sup>1,2,47</sup>

1. The concentrations of sodium and chloride of sweat and saliva are greatly depressed while that of potassium is abnormally high. This indicates intense biological activity of a sodium-retaining corticoid.
2. There exists negative balance for potassium in the presence of sodium equilibrium and of nitrogen equilibrium.
3. The biochemical lesion is confined to electrolyte metabolism, organic metabolism being normal.
4. Analyses of large muscle biopsies demonstrate a great excess of intracellular sodium and a great deficiency of intracellular potassium.
5. Bioassay for aldosterone on the cortical tumor tissue gave values (on a per gram basis) many times greater than that found in beef or hog adrenal; also thirty times greater than that found in an adrenal tumor that had produced Cushing's syndrome. Paper chromatographic study of extracts of the tumor reveals the active material to be aldosterone.
6. Biopsies of both kidneys reveal a diffuse vacuolar nephropathy, the so-called "clear-cell nephrosis" which is characteristic of chronic hypokalemia. This is the cause of the hyposthenuria.<sup>63</sup> Severe renal arteriosclerosis is also found.
7. Disappearance of the entire clinical and biochemical abnormality (hypertension included) is complete within two weeks following removal of the cortical adenoma.

It is recommended that patients exhibiting the clinical and biochemical abnormalities described above be subjected to adrenal surgery. It is likely,

from the information available to date, that the great majority of such patients harbor an *adrenal cortical tumor producing excessive amounts of aldosterone (aldosteronoma)*. However, there is reason to believe that in some patients with this syndrome a tumor will not be found at operation.<sup>54,61</sup> Under these circumstances a total adrenalectomy (or an extensive subtotal one, pending future experience) should be performed.

As indicated in the classification (Table I), an element of primary aldosteronism may exist in association with excessive production of other adrenal corticoids, particularly in malignancies involving the adrenal gland.<sup>40,64,65</sup> However, in such cases, the clinical picture produced by the other corticoids, as well as the presence of excessive amounts of other excretory steroids in the urine, focuses one's attention upon the adrenal as the source of the difficulty.

In "pure" primary aldosteronism such tell-tale signs pointing to adrenal involvement are absent since urinary 17-ketosteroids and 17-hydroxycorticoids are normal. The clinical picture and the biochemical lesion as described above, however, are characteristic and should now suggest to the physician that he is dealing with an abnormality of adrenal cortical function.

### Primary Aldosteronopenia

A situation has not yet been described in which there is primary adrenal failure to produce sufficient aldosterone, in association with a maintained capacity to secrete normal quantities of the other corticoids. It is possible, however, that it exists. Since, on the basis of present knowledge, a diminished concentration of aldosterone in blood would not be expected to activate increased secretion of ACTH (as a diminished blood level of hydrocortisone is known to do) there would occur no increase in urinary steroid excretion (17-hydroxy and 17-ketosteroids) to suggest an adrenal etiology for such a condition. Better quantitative methods for determination of aldosterone in blood will have to be devised before this postulated condition can be sought.

It is clear to those familiar with this field that an analogy has been drawn above with the condition now known as congenital adrenal hyperplasia (Table I). The latter condition is one in which a primary adrenal defect exists with respect to the steroidogenesis of hydrocortisone. According to the terminology used in our classification the name

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“primary hydrocortisonopenia” would describe the situation better than the one now in use. In any case, the low level of blood hydrocortisone results in increased release of ACTH, which, in turn, produces bilateral cortical hyperplasia and greatly increased production of those steroids (mainly androgenic ones) in which no defect in steroidogenesis exists. Thus, the clinical result of “primary hydrocortisonopenia” is virilization, the so-called adrenogenital syndrome.

Many of these patients (primary hydrocortisonopenia) demonstrate a defect of electrolyte metabolism similar in all respects to that seen in Addison's disease. This is correctable as in the Addisonian by administration of desoxycorticosterone. This suggests that in addition to primary hydrocortisonopenia, a variable degree of primary aldosteronopenia may exist as well. Hypothetically, the pathway for steroidogenesis of aldosterone is similar to that of corticosterone.<sup>66,67</sup> It is possible, therefore, that the same enzymatic defect which interferes with normal synthesis of hydrocortisone results also in decreased production of aldosterone. But another possibility exists. Sodium loss in such patients could prove to be due to the presence of a substance which actively inhibits renal tubular reabsorption of sodium. Under such conditions production of aldosterone, if intact, would actually increase above normal. With respect to aldosterone, the condition would then have to be included as one of secondary aldosteronism. Leutscher<sup>68</sup> has, in fact, reported an abnormally high quantity of sodium-retaining steroid in the urine of a patient with the salt-losing type of congenital adrenal hyperplasia. In Table I, a (?) is placed before Congenital Adrenal Hyperplasia pending future clarification of these possibilities.

That primary aldosteronopenia exists in Addison's disease along with deficiency of all other adrenal secretory products goes without saying. It is placed in the classification for the sake of completeness. It is likely that with the recent synthesis of aldosterone<sup>16</sup> this compound will soon be available for use as physiological replacement therapy. It is effective when given orally. In proper combination with hydrocortisone it constitutes future natural replacement treatment of Addison's disease.

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# Thyroid Gland

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THE primary intent of this review is to inform general practitioners of medicine about some newer developments in the diagnosis and treatment of thyroid disease which might be useful to them in their everyday practice. Since this task does not require a complete review of the more than 3,000 articles written yearly about the thyroid, and since it does require that new developments be presented with some background, no attempt has been made to review all good articles on thyroid disease, or to limit sharply the period of time from which the literature was selected for this review. Two of the most comprehensive review articles on the thyroid gland are by Riggs<sup>1</sup> and Albert.<sup>2</sup>

## Gynecology and Obstetrics

**Menstrual Irregularity.**—Is there any rationale for the administration of desiccated thyroid to women with menstrual irregularities? Yes, there is good evidence that desiccated thyroid administration is beneficial for a certain type of menstrual irregularity associated with hypothyroidism. There is no proof, however, that desiccated thyroid will end menstrual irregularity in a woman with a normal thyroid gland (euthyroid).

One of the most common types of menstrual irregularity is the condition *metropathia hemorrhagica*. The term is defined by Albright<sup>3</sup> as a clinical condition characterized by periods of amenorrhea interrupted by endometrial oozing or hemorrhage occurring without periodicity and with an absence of ovulation. This may be due to ovulatory failure with lack of normal progesterone secretion and increased estrin effect on the endometrium. Ordinarily, increased pituitary follicle-stimulating hormone, FSH, causes increased estrin effect and decreased leuteinizing hormone, LH, tends to result in ovulatory failure and lack of progesterone.

In humans, Goldsmith and coworkers<sup>4</sup> found that the characteristic feature in the menstrual response of humans to myxedema was ovulatory

failure with a continuous estrin effect on the endometrium, leading to the syndrome of metropathia hemorrhagica. Their studies suggested that the locus of this defect in these women was in the LH-producing cells of the anterior pituitary, and that thyroid hormone was a necessary adjuvant in the proper functioning of these cells. They concluded that their studies might be interpreted to show that deficiency of thyroid hormone produces irregularities in menstrual flow through increase in FSH or decrease in LH (or both) output by the pituitary with secondary effects on the uterus via the ovaries.

**Infertility, Abortion, and Toxemia.**—(1) Hypothyroidism: There is no well-accepted experimental evidence that the administration of desiccated thyroid increases fertility or prevents toxemia of pregnancy. There is experimental evidence against this therapeutic possibility. Hodges, Hamilton, and Keettel<sup>5</sup> found reports of the occurrence of pregnancy in sixteen patients with authentic diagnosis of myxedema. They reported an additional case of an unequivocally myxedematous woman whose symptoms were established and had persisted for a fifteen-year period, during which time she bore six children, four of whom were living at the time of the report. The patient had never taken thyroid substance during this period of time. A careful study of the four living children revealed that they were euthyroid. The existence of numerous congenital and developmental defects in these children, however, suggested that the myxedematous maternal state exerted a deleterious effect on the children.

Peters et al<sup>6</sup> have presented experimental evidence in humans that the administration of desiccated thyroid to certain persistent aborters, regardless of their pre-pregnancy thyroid function, was followed by a normal outcome of a full-term pregnancy.

2. Hyperthyroidism: Astwood<sup>7</sup> made an excellent study of the opposite association—hyperthyroidism and pregnancy. This study supported the view that in hyperthyroidism there is an increased

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incidence of menstrual irregularity, diminished fertility, and a higher than normal rate of fetal loss through miscarriage and stillbirth. His data suggested that these difficulties were decreased in frequency and severity by treatment of the thyrotoxicosis. His findings indicated that if congenital anomalies occurred during pregnancy complicated by hyperthyroidism, these anomalies are not brought about by antithyroid drug treatment of the hyperthyroidism. Excessive dosage of antithyroid drug, however, with resultant hypothyroidism might increase the risk of abortion in early pregnancy and could, in late pregnancy, cause hypothyroidism and goiter in the fetus.

### Goiter

Is iodine deficiency still thought to be the cause of non-toxic goiter, and is iodine administration the treatment of choice for such a goiter?

The answer to the first part of this question should be carefully worded to state that iodine deficiency is not the *sole* cause of such goiters but that most such goiters can be *prevented* by the administration of iodides. The answer to the second part of this question is that once a goiter has developed, desiccated thyroid administration, not iodine, is the treatment of choice.

*Iodine Deficiency and the Etiology of Goiter.*—Axelrad et al have recently summarized pertinent literature on iodine deficiency and goiter formation.<sup>8</sup> There is no question but what iodine deficiency is a cause of endemic goiter.

*Other Factors.*—Greenwald,<sup>9</sup> however, has presented good evidence that iodine deficiency is not the *sole* cause of either endemic goiter or experimentally produced goiter. He found that old methods for the chemical quantitative determinations of iodine in foods, water, and soil were not accurate. Furthermore, differences in iodine content were found to vary as much within a goiter area as the differences in iodine content found between a goiter area and a non-goiter area. In addition, Greenwald and others<sup>10</sup> have found that endemic goiter may appear in a geographical area, become widespread, and then markedly decrease in incidence and severity or disappear without any detectable quantitative change in iodine intake during this time.

Also, Greer<sup>11</sup> has isolated a naturally occurring goitrogen, 1,5-vinyl-2-thioxozolidone in foods that

inhibited thyroid function in man or rats fed diets which were not low in iodine. Similar goitrogenic compounds might be responsible for the production of goiters previously attributed to the lack of iodine.

Sex and constitutional predisposition may be additional factors in the etiology of simple goiter. Other factors, such as infection, later may be demonstrated to play a part in the genesis of goiter. In view of these diverse etiological possibilities, residents of Michigan may well rejoice in the findings of Brush and Altland,<sup>12</sup> which disclose that the incidence of goiter in Michigan school children has decreased from a level of 47 per cent in 1924 to 1.4 per cent in 1951 following the voluntary use of iodized salt in the state of Michigan. No evidence indicated that the use of iodized salt exerted a harmful effect. The incidence of toxic nodular goiters and non-nodular goiters seemed to decrease during this interval, presumably as a result of preventing the initial development of simple goiter.

*Endemic Goiter, Thyrotoxicosis, and Cancer.*—Clements<sup>13</sup> performed a careful statistical study on endemic goiter and its relationship to thyrotoxicosis and carcinoma of the thyroid in Australia. He presented data which tended to confirm the impression that the incidence of thyrotoxicosis is decreased by endemic goiter prevention. Data on carcinoma of the thyroid is less certain because carcinoma of the thyroid is diagnosed much less commonly during life.<sup>14</sup> Nevertheless, the data of both Clements<sup>13</sup> and Sokal<sup>15</sup> suggested that "the sequence of some, at least, of the cases of carcinoma of the thyroid has been: endemic goiter → thyrotoxicosis → cancer."<sup>13</sup>

*Treatment of Simple Goiter; Iodine vs. Desiccated Thyroid.*—Iodine administration not infrequently causes a reduction in goiter size in patients with well-established endemic goiter. Sporadic goiter is different from endemic goiter, however. Most patients with sporadic goiter, in the author's experience, have been using iodized salt at the time they developed their goiter. Iodine administration rarely causes dramatic shrinking of such a thyroid enlargement. Greer and Astwood<sup>16</sup> have reviewed the literature and repopularized the treatment of simple goiter with thyroid. They treated fifty cases of simple goiter over a five-year period with desiccated thyroid. They reported that 76 per cent of

the patients responded to therapy with a decrease in the size of the goiter and 40 per cent had a complete remission. Sixty-seven per cent of nine multinodular goiters had a favorable response, 33 per cent disappearing completely. Sixty-seven per cent of eighteen single nodules responded and 39 per cent disappeared completely. Only 15 per cent of forty goitrous patients not treated with thyroid had a reduction in the size of the goiter.

*Desiccated Thyroid for Nodular Goiters.*—Occasionally a patient in Michigan with a *simple* or *colloid* goiter of less than one year's duration will show regression of the goiter on desiccated thyroid treatment. On the other hand, there is also a current medical fad of treating patients with nodular goiter with desiccated thyroid in an effort to rid the patient of nodules or adenomas without resorting to the use of a surgical thyroidectomy. The regimen of diagnosis and treatment in such an instance is as follows: Solitary non-toxic thyroid nodules are classified as "hot" or "cold" depending upon whether or not their uptakes of  $I^{131}$  are more than that of a non-nodular area of thyroid tissue of the same patient.<sup>17</sup> To date, no one has reported the occurrence of a "hot" nodule which contained thyroid cancer. At least one-fourth of all "cold" nodules, however, have proved to harbor carcinoma.<sup>17,18</sup> It is hypothesized that the solitary nodule may disappear during the administration of desiccated thyroid for the same reasons that the simple goiter will respond to this form of therapy. That is, the goiter represents functional hypertrophy and hyperplasia in response to a demand to manufacture a normal amount of iodinated thyroid hormone with a deficient supply of one of the raw materials, iodine. Thyroid administration is supposed to inhibit the production of thyroid-stimulating hormone, TSH, by the pituitary, and thus cause involution of the goiter.

But the nodules so *rarely* disappear<sup>17,18</sup> under this form of therapy that thyroid therapy for nodular goiter would appear to have little practical utility. Another difficulty encountered in attempting to use this regimen for nodular goiter is that our patients have seldom returned to a physician for repalpation of the goiter at the end of a three-months' trial period.

Also, colloid adenomatous goiter with retrogressive changes is the most common type of goiter we see in the state of Michigan. It is highly unlikely that we can cause large areas of retrogressive

change to disappear with the administration of desiccated thyroid. For these reasons it is improbable that the medical fad of desiccated thyroid administration for the treatment of nodular goiters will enjoy a long life. It may prove to be helpful in a relatively rare case of a small soft hot nodule in the thyroid of a reliable patient who will return for checkups and submit to surgical thyroidectomy if the nodule fails to disappear.

*Surgery for Nodular Goiters.*—(1) *Age of Patient and Presence of Thyrotoxicosis:* If a nodular goiter is toxic in a patient of any age, it should be removed after adequate preoperative preparation. If a nodular goiter is non-toxic, it is more liable to contain carcinoma than if it were toxic. If the person is under age twenty-five years, the liability of the nodular goiter to contain carcinoma is greatly increased. Ward<sup>19</sup> found a 40 per cent incidence of carcinoma of the thyroid in children less than fifteen years of age. Dailey and Lindsay<sup>20</sup> found that 59 per cent of the non-toxic nodular goiters in patients less than twenty years old were malignant. In adults, Cole and coworkers<sup>21</sup> found the incidence of carcinoma in toxic diffuse goiter was 0.1 per cent; in toxic nodular goiter, 1.0 per cent; and in non-toxic nodular goiter, 15.6 per cent. Twenty-one per cent of solitary non-toxic nodules and 9 per cent of multinodular non-toxic nodules were found to harbor carcinoma.

(2) *Solitary Non-toxic Nodular Goiters:* It seems clear from the relatively representative figures just cited that solitary non-toxic nodular goiters should be excised primarily as prophylaxis against carcinoma of the thyroid.

(3) *Multinodular Non-toxic Goiters:* Statistics suggest that the question here is not, should multinodular non-toxic goiters be excised? but *when* should they be excised? The lack of interest in removing multinodular non-toxic goiters is promoted mainly by the mistaken belief that the only motivation toward surgery here is concern over the relatively low incidence (8.7 per cent) of carcinomas in these goiters. Not so. The prophylaxis of carcinoma is but one problem in this situation. A dominant problem here is growth of goiter producing a poor cosmetic appearance, substernal extension, and deviation or compression of the trachea. Obstructive symptoms are frequently produced then at an age when these persons may well be developing heart disease. In addition, thyrotoxicosis usually appears after the goiter has been

## THYROID GLAND—BEIERWALTES

present for an average period of 14.5 years.<sup>22</sup> In one series, thyrotoxicosis was present in 50 per cent of intrathoracic goiters at the time of operation.<sup>23</sup> Lastly, carcinoma does occur in such goiters. Unfortunately, the goiter may be observed for many years before signs of malignancy appear. In one series of patients with carcinoma of the thyroid,<sup>24</sup> 57 per cent of the patients with goiter were between the ages of fifty and eighty years and stated that they had had a goiter for fourteen to forty years before operation disclosed the presence of carcinoma. Because of all these considerations, it seems wise to remove such goiters surgically while the patient is still a good operative risk.

*Surgery for Carcinoma.*—Prophylactic approach for suspected carcinoma of the thyroid gland in solitary and multinodular goiters has already been outlined. Surgical approach for established carcinoma of the thyroid gland has gradually become more radical. The conservativeness of the old surgical approach to this problem was probably due to the relative benignity of thyroid carcinoma as compared to carcinoma of most other structures. An excellent study at Massachusetts General Hospital<sup>25</sup> disclosed the following survival rates of patients with three different morphologic types of thyroid carcinoma:

| Cumulative survival to | 5 years | 10 years | 20 years |
|------------------------|---------|----------|----------|
| Papillary              | 73%     | 60%      | 45%      |
| Follicular             | 71%     | 48%      | 24%      |
| Undifferentiated       | 17%     | 17%      | 17%      |

It should be noted that the survival rate of papillary carcinomas is excellent. Papillary carcinoma of the thyroid constitutes over 60 per cent of all thyroid carcinomas.<sup>26</sup> Consequently the average patient with carcinoma of the thyroid may have local excision of a single nodule as his only form of treatment and still remain asymptomatic for years. This excellent prognosis gave false confidence to the surgeon practicing conservative surgery for this type of carcinoma. It is now recognized that carcinoma of the thyroid tends to become more undifferentiated<sup>25,27</sup> and more invasive at age forty to fifty years and consequently should be treated more radically in the same manner as cancer occurring elsewhere. The newer, more radical approach, consequently, is roughly as follows.<sup>25</sup> The nodule in question is excised along with some "normal" surrounding thyroid tissue. Three or four lymph nodes from each

jugular chain, normal or abnormal in appearance, are excised at the same time. All tissue removed is submitted for frozen section examination. If no carcinoma is found, nothing further is done. If carcinoma is found only in the thyroid, a bilateral total thyroidectomy is performed. If one or more lymph nodes from one side of the neck are also found to contain carcinoma, a radical neck dissection is performed on that side at the same operation. It should be stressed that a radical neck dissection should not be done if the patient has obvious metastases outside the neck region.

### Thyroiditis

*Differential Diagnosis.*—Acute thyroiditis is often confused with carcinoma diagnostically. Hemorrhage into an adenoma, or rapidly growing anaplastic carcinoma of the thyroid may produce sudden tender swelling in the thyroid gland simulating thyroiditis. As acute thyroiditis subsides, rock-hard nodules may develop transiently in the thyroid, simulating carcinoma of the thyroid. It is of interest therefore that two new diagnostic methods have been developed to aid in the diagnosis of thyroiditis. The first diagnostic method uses the  $I^{131}$  uptake and serum PBI determinations performed on the same day. The  $I^{131}$  uptake is usually depressed to less than 5 per cent at twenty-four hours (normal 15 to 45 per cent) while the serum protein-bound iodine is simultaneously elevated in acute thyroiditis.<sup>28</sup> The second diagnostic aid is a therapeutic trial of cortisone.<sup>29,30</sup> Cortisone administered to a patient with acute or subacute thyroiditis in dosage of 300 mg. per day for one day, then 200 mg. per day for two more days will usually result in dramatic or complete subsidence of all symptoms or signs of thyroiditis. If this result does not occur, thyroidectomy should be performed prophylactically for carcinoma.

*Treatment of Thyroiditis.*—It should be remembered that cortisone will not treat the underlying virus (?) infection but merely blocks the inflammatory response. The patient should therefore be given two weeks of strict bed rest in treatment of his disease and then be ambulated slowly. His dose of cortisone can be decreased to 100 mg. per day for the first week and then 12.5 mg. per day per week from then on. The relapse rate is high if the patient is not given bed rest or if the cortisone dosage is not tapered slowly.

### Hypothyroidism

**Diagnosis.**—The best generally available test to differentiate borderline hypothyroidism from normal thyroid activity is observation of the effect of a therapeutic trial of desiccated thyroid.<sup>31,32</sup> A basal metabolic rate, basal pulse rate, and serum cholesterol determination should be performed before and after a two-months' trial period of the administration of 1½ grains of desiccated thyroid per day. If the basal metabolic rate and basal pulse rate rise significantly and the serum cholesterol falls significantly, the patient has hypothyroidism. No significant change in these indices of thyroid function will be observed if the patient's thyroid gland is normal. Probably the next most helpful diagnostic test for detecting the presence of mild hypothyroidism is the serum protein-bound iodine.<sup>33</sup>

**Primary Myxedema.**—Myxedema due to primary "death" of the thyroid gland has been found to result in underactivity of the pituitary with respect to FSH<sup>34</sup> and TSH<sup>35</sup> and underactivity of the adrenal cortex.<sup>34,36</sup> Such a patient may well die from surgery because of inactivity of the pituitary-adrenal mechanism. Patients with myxedema treated with a small ration of desiccated thyroid may appear fairly well but may not attain complete recovery of pituitary and adrenocortical function until they have been maintained on 2 to 3 grains of desiccated thyroid per day for a relatively long period of time.<sup>34</sup>

**Treatment of Myxedema.**—Sodium-levo-thyroxine<sup>37</sup> and tri-iodo-thyronine<sup>38</sup> have appeared recently and have been advocated for the treatment of hypothyroidism. One tenth of a milligram of sodium-l-thyroxine has roughly the potency of one grain of thyroxine, as used in the treatment of myxedema. Thyroxine by mouth exerts the same rate, magnitude, and duration of calorigenic action as desiccated thyroid and possesses no significant advantage that justifies its adoption as the drug of choice in the routine treatment of hypothyroidism. Thyroxine is thought to be thyroid hormone as it circulates in the blood. It has been suggested that one of the four iodine atoms of thyroxine (in the 5' position) is removed from thyroxine at the cell membrane and that the resultant compound, triiodothyronine, is the intracellular form of thyroid hormone.<sup>39</sup> The activity of l-triiodothyronine is four to five times as great as that of l-thyroxine in

terms of weight, and six or more times in terms of iodine content.<sup>40</sup> A single large dose of thyroxine given to a patient with total myxedema results in a maximum rise in the basal metabolic rate to normal in four to seven days with a return to base line levels in eight to twelve weeks.<sup>41,42</sup> Triiodothyronine exerts its maximum effect in twenty-four to forty-eight hours, and the basal metabolic rate returns to base line values in five to seven days. It has been suggested, therefore, that triiodothyronine be used to treat patients with myxedema because it will make the patient well faster than desiccated thyroid or thyroxine. Actually, our greatest concern in treating the patient with myxedema is that we may raise the basal metabolic rate too rapidly and, by so doing, induce congestive heart failure, coronary insufficiency, or adrenocortical insufficiency. Consequently, the increased rate of calorigenic activity of triiodothyronine would tend to be a disadvantage in its usage rather than an asset. Furthermore, its more rapid decay in activity would cause uneven control of calorigenic effect. It may be concluded that there is no reason to change from the use of desiccated thyroid in the routine treatment of myxedema.

### Hyperthyroidism

**Diagnosis.**—The radioiodine uptake test is generally thought<sup>43</sup> to be the most helpful single test in the diagnosis of borderline thyrotoxicosis. The serum PBI is of more value in the diagnosis of hypothyroidism than in the diagnosis of hyperthyroidism. This latter determination measures such minute amounts of iodine that results are frequently altered by iodine in chemical reagents. For this and other reasons it is poorly adaptable to the average general clinical laboratory. The administration of iodides in the form of x-ray contrast media, cough medicines, and vitamin capsules constitutes the major cause of "false" abnormalities in these tests.<sup>44</sup>

**Treatment with Radioactive Iodine.**—The main change that has been observed in the treatment of hyperthyroidism is an increased use of radioactive iodine.

(1) **Contraindications:** It is generally accepted, however, that until we have had a twenty-year follow-up on patients treated for hyperthyroidism with radioactive iodine, we will not be able to settle conclusively the question of whether or not radioiodine is carcinogenic as used in the treat-

ment of this disease. At present, although no patients have developed carcinoma thought to be related to the  $I^{131}$  therapy, there is enough disturbing evidence<sup>45,46</sup> regarding the possible carcinogenic effects of  $I^{131}$  to warrant limitation of the use of  $I^{131}$  as the treatment of choice for non-nodular toxic goiter to persons over the age of forty years. If the goiter is large or nodular, it may already harbor carcinoma and should be removed surgically. Radioiodine is also contraindicated in the treatment of toxic goiter in a pregnant woman.

(2) Indications: These contraindications leave the following indications for radioiodine therapy for thyrotoxicosis: (a) Persistent or recurrent thyrotoxicosis after subtotal thyroidectomy for non-nodular toxic goiter. Here the anatomical landmarks have been sufficiently disturbed to produce a very real and well-established increased operative morbidity as compared to the possible but undemonstrated carcinogenic effects of  $I^{131}$ . (b) Refusal of surgery by the surgeon or patient. (c) Disabling pre-operative preparation or reaction to antithyroid medication before the patient is adequately prepared for operation. (d) Eye signs of serious exophthalmos.

Radioiodine users face the same dilemma as surgeons in that the destruction or removal of too much thyroid tissue results in the development of hypothyroidism. If the initial dose purposely is kept small to avoid the development of hypothyroidism, the incidence of persistent or recurrent hyperthyroidism is increased. When we treated a large series of patients<sup>47</sup> in an attempt to make them well with *one dose* of  $I^{131}$ , there was a 20 per cent incidence of temporary or permanent hypothyroidism and a 20 per cent incidence of persistent or recurrent hyperthyroidism that required the administration of one or more additional doses of  $I^{131}$ . Various attempts are underway at present to reduce the incidence of hypothyroidism by giving smaller doses of  $I^{131}$  at more frequent intervals<sup>48</sup> using "prediction" tests to shorten the necessary time for observation after the first dose.

**Antithyroid Drugs.**—Antithyroid drugs are used much less commonly since the Atomic Energy Commission released radioactive iodine for use in private practice. Propylthiouracil in dosage of 300 milligrams per day or Tapazole (1-methyl-2-mercaptoimidazole) in dosage of 20 to 40 milligrams per day enjoy the most widespread popu-

larity. Only rarely are they used today as the sole mode of treatment for a patient with thyrotoxicants. Such a patient is usually a young person with no goiter, strong evidence of thyrotoxicosis, but with a heavy emotional overlay. Antithyroid drugs are still used most commonly, however, in preoperative preparation. The patient with thyrotoxicosis is given 100 milligrams of propylthiouracil three times daily and 1 to 5 drops of Lugol's solution of iodine daily until he is clinically euthyroid. Thyroidectomy is then performed without first stopping propylthiouracil and giving iodine alone before operation, since Danowski has shown that iodine plus antithyroid drug make the patient well faster than either alone,<sup>49</sup> and Rawson has shown<sup>50</sup> that excellent involution of the hyperplastic thyroid occurs when iodine is administered concomitantly with antithyroid drug.

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## BRYN MAWR HOSPITAL'S ANNUAL REPORT

Bryn Mawr Hospital's annual report lists a total of nearly 13,000 in-patients served in the last fiscal year. The institution is described in the report as "a small town with over 1,000 people within its walls each day and \$12,000,000 worth of buildings, grounds and other assets." The mortgage burden of \$756,000 is being paid off at the rate of \$71,250 a year. Operating expenses have increased \$135,000 over the previous year, largely due to further increases in salaries and wages which account for over 68 per cent of the operating cost. The

hospital supplied \$330,754 worth of free service to ward and out-patients. Total income for the year was \$2,600,000, total expenditures were \$2,684,000, resulting in a loss of \$84,000.

During the fiscal year there were 12,802 in-patient admissions, with each patient staying an average of nearly nine days. The normal day saw 314 patients staying in the hospital, 12,139 were treated in the accident ward and there were 11,472 visits to the dispensary.—*Philadelphia Medicine*, Dec. 16, 1955.

# High Energy Radiation in the Treatment of Cancer

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AT THE present time in the field of radiation therapy we are witnessing the remarkable phenomenon of a tremendous expansion of the number of installations of high energy radiation devices to be employed in the treatment of malignant disease. These devices include one and two million volt x-ray machines, betatrons, linear accelerators and cobalt-60 teletherapy units. It is largely the last named, the cobalt-60 devices, that accounts for the current expansion. The clinical application of high energy radiation in this country is not new. At the California Institute of Technology in Pasadena, a clinical trial of one million volt x-ray radiation was begun in the latter part of 1930 and reported in 1937 at the Fifth International Congress of Radiology.<sup>1</sup> A one million volt x-ray machine was installed and used in 1932 at the Tumor Institute of The Swedish General Hospital in Seattle;<sup>2</sup> this apparatus was in active clinical use until a few years ago. These were not the only installations of this type. Now some two decades later with the availability of cobalt-60 sources and the development of cobalt-60 devices, high energy radiation therapy installations are becoming widespread throughout the nation.

It cannot be maintained that the experience of the past twenty years with the isolated high energy radiation installations has clearly demonstrated great clinical value in the treatment of malignant disease and obvious superiority over results obtained by careful meticulous radiotherapy carried out with radiation in the 200 to 400 kilovolt range. Thus the basis for the current great expansion in this type of facility must be sought first in the promise of the possibility of obtaining improved results, the ready availability of radioactive cobalt brought about by the construction and use of uranium reactors and certain other factors which are not immediately medical in character. A conservative and sound judgment of the potentialities of high energy radiation

in clinical therapy is to be found in the articles by Cantril and Buschke<sup>2,3,4,16</sup> who have reported what is probably the longest continuous experience in this field.

High energy radiation may be defined as x-rays generated by one or more million volts (m.e.v.) in contrast to high-voltage x-ray radiation produced in the voltage range of 200,000 to 400,000. At the present time, the standard of high voltage x-rays for therapeutic use tends to be those produced by a varying voltage of 220,000 or a constant voltage of 250,000. In the high energy range, the tendency in x-ray machines is towards two million volt apparatus of which two types are available commercially today: one, a low frequency resonant transformer type, produced by the General Electric Co. and the other a Van der Graf apparatus (essentially a large electrostatic machine) manufactured by the High Voltage Corporation.

Of the cobalt-60 devices a variety are available on the current market ranging from units working at short distances with sources of several hundred curies to the larger teletherapy devices which may contain up to 2000 curies of cobalt-60 and may be used with treatment distances of 70 to 100 cm., essentially the distances used with 1 to 2 m.e.v. x-ray machines. Some of the devices are so constructed that it is possible to move the source around the stationary patient whereas with others the source is fixed as in the conventional x-ray therapy machine; with the latter type so called "rotational" therapy must be done by rotating the patient, usually in the erect position.

Certain differences exist between 1 to 2 m.e.v. x-ray machines (often termed "supervoltage" machines) and cobalt-60 therapy devices for teletherapy (i.e. therapy at a distance). The cobalt units are more compact and may be housed in rooms of ordinary size in contrast to the larger chambers required by the large x-ray machines. No energizing equipment for production of high voltage is required by cobalt units—the radiation being given off by the radioactive cobalt source.

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In the case of the x-ray machine a switch shuts off x-ray production but radiation never ceases to come from a cobalt source; elaborate precautions are required for opening and closing a fool-proof shutter to permit a radiation beam to be turned on and off the patient. The elaborate electrical equipment associated with a supervoltage x-ray machine implies the necessity of periodic servicing and parts replacement while the simple arrangements of a cobalt unit minimizes such necessity. On the other hand, the cobalt source deteriorates continuously in radioactive strength so that in 5.3 years its radiation output will decrease by 50 per cent. Cobalt-60 replacement is expensive; estimates of the cost of maintenance and operation of 2 m.e.v. x-ray machines and the larger cobalt units have been about equal. With both, a considerable investment in construction costs is required for protection of the region in the vicinity of the treatment room from direct and scattered high energy radiation.

The composition of the radiation beam emitted by a cobalt source is quite different from that produced by a 2 m.e.v. x-ray machine. The latter consists of a continuous spectrum of wave lengths but the cobalt radiation beam is made up only of two wave lengths corresponding to 1.1 and 1.3 m.e.v. For practical purposes the radiation from a cobalt source is monochromatic. It is not known that this offers any advantage for clinical radiation therapy. In general the radiation output as measured in roentgens per minute is higher with a 2 m.e.v. x-ray machine than with even the larger cobalt teletherapy machines (up to 2000 curie sources) and of course the higher output is maintained over time in contrast to the decreasing output of the radioactive source. This offers certain practical advantages but the output of the larger teletherapy cobalt units is entirely adequate.

Inherent in all the cobalt devices is the physical disadvantage of a larger size of the radiation source in comparison with the smaller size of the focal spot (the site of generation of x-rays) in a 2 m.e.v. x-ray machine. In the commercially available cobalt-60 devices, the smallest diameter of the source that can be obtained is 2 cm. Because of this, geometric considerations make it impossible to collimate the radiation beam as well as with a 2 m.e.v. machine; a certain dimension of penumbra at the beam edges greater than that occurring with 2 m.e.v. machines is inevitable.

### X-RAY WITH CO-60

| Depth (cm.) | 220 Kv <sup>1</sup> | Co-60 <sup>2</sup> | Ratio Co-60/220 Kv. |
|-------------|---------------------|--------------------|---------------------|
| 0           | 100                 | ...                |                     |
| 0.6         | ...                 | 100                |                     |
| 2.0         | 92                  | 93                 | 1.01                |
| 5.0         | 68                  | 78                 | 1.15                |
| 7.0         | 54                  | 68                 | 1.26                |
| 10.0        | 37                  | 56                 | 1.51                |
| 15.0        | 18                  | 38                 | 2.11                |
| 18.0        | 12                  | 30                 | 2.50                |

<sup>1</sup>220 Kv., H.V.L. 1.5 mm. Cu. distance 70 cm., field dimension of 10 cm.

<sup>2</sup>Co-60 Theratron Teletherapy Unit, variable shutter with 10 cm. extension tube, distance 73.3 cm., field dimension of 10 cm.

However this can be minimized sufficiently to make it unimportant in clinical radiotherapy.

One of the great physical advantages of high energy radiation over radiation produced in the voltage range of 200 to 400 kilovolts is the increased dose obtained in the depth of the body with equal surface doses. Dixon et al<sup>5</sup> have compared depth dose curves of a conventional type cobalt-60 teletherapy unit with 2, 3 and 4 m.e.v. x-ray machines for 10 by 10 cm. fields at a distance of 70 cm. and have shown that the depth dose obtainable with cobalt-60 is about the same as that of an x-ray beam of 3 m.e.v. The advantage in this respect of cobalt-60 is due essentially to the monochromatic character of the cobalt beam as opposed to heterogenous wave length composition of the 2 m.e.v. x-ray beam.

In Table I is presented a tabulation of relative radiation dose at various levels below the surface for 220 Kv. and cobalt-60 radiation. These data were taken from isodose curves obtained on our own machines with an automatic isodose plotter developed and constructed by our radiation physicist, Dr. Charles Simons. The increasing advantage with increasing depth of the cobalt radiation over high voltage x-ray is obvious. At 10 cm. below the surface the cobalt dose is 1.5 times that of the x-ray dose; at 18 cm. it is 2.5 times as large. This means that even with relatively small fields, as those employed in this example, large doses may readily be introduced into the depths of the body. This ability to use smaller fields carries an important clinical advantage: the smaller the irradiated volume the better is the radiation treatment tolerated by the patient.

Table I demonstrates an additional physical advantage. It will be noted that the maximum dose for 220 Kv. x-ray occurs at the surface (that is, in the skin). The maximum dose for the cobalt beam, however, is not found at the surface but at

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about 6 mm. below the surface, that is, below the skin. In contrast to the low-energy electrons produced by x-ray, those produced by the high energy radiation have such long ranges in tissue that equilibrium (that is, as many new electrons being produced as have totally dissipated their energy by ion production) is not achieved until about 6 mm. of tissue have been traversed by the radiation beam. Thus the high energy radiation produces a low dose in skin on the surface minimizing or eliminating radiation skin reaction. It is possible to give a skin dose of 7000 r of 220 Kv. radiation in about four and one-half weeks; this produces complete desquamation of the epidermis which will be replaced in several weeks. With cobalt-60 radiation a dose of 7000 r at 6 mm. below the surface in the same time will produce almost no skin reaction and deliver a greater dose in the depth. This is an obvious clinical advantage but an advantage which is related to convenience and patient comfort and not to any increased ability to cure malignant disease. Indeed from another viewpoint the diminished intensity of skin reaction forms the basis of a clinical disadvantage. Skin reaction has constituted a rough basis for dosimetry and has acted as a factor or warning against, and limiting the danger, of over-dosage in the depth of the body. With this absent, control of internal dosage must be based on careful control by accurate physical methods of dosimetry and clinical evidence of radiation reaction in internal structures.

A third physical attribute of high energy radiation which can be applied with advantage to clinical radiotherapy is based on the fact that this radiation in passing through matter tends to scatter in a forward direction rather than to the side or backwards. Therefore at any given level below the surface the radiation dose tends to be more uniform across the width of the beam than in the case of lower voltage radiation; with the latter the fall off in radiation quantity towards the edges of the beam may be considerable. Thus it is possible to provide more uniform dose in a lesion with high energy radiation and to diminish the quantity of radiation outside of the geometric limits of the beam. It may at times become possible to administer a relatively uniform dose in a tumor through a single field (simplifying the technique of treatment) with a small field which limits the volume of tissue irradiated (less "radiation sickness") and less radiation dose (thus further en-

hancing systemic and also local tolerance) outside of the volume brought up to a high dose.

Another physical attribute of high energy radiation in its reaction with the tissues of the body is the decreased absorption of energy in bone per roentgen of ionization in soft tissue for this type of radiation as compared to ordinary high voltage x-ray. The energy absorption in bone for 200 Kv. x-ray is about 2.5 times that in soft tissue<sup>6</sup> whereas for high energy radiation (1 or more m.e.v.) the energy absorption in bone is about the same as that in soft tissue.<sup>7</sup> In a qualitative manner this is demonstrated when radiographs are made with high energy radiation. Contrary to relatively satisfactory recording of bone structures when 200 Kv. radiation is used, with cobalt-60 radiation, virtually no difference between soft tissues and bone structures can be found in the radiograph. Another investigation<sup>8</sup> of the interaction of high energy radiation and bone as compared to 200-250 Kv. x-rays has shown that the soft tissues within the haversian canals receive a dose only slightly larger than soft tissues remote from bone when high energy radiation is administered but with the lower voltage radiation this dose is considerably greater. Experience suggests that radiation damage of bone proceeds by way of radiation effect on its soft tissue elements, especially on the capillaries within the haversian canals. It is hoped that the relative sparing of these soft tissue elements by high energy radiation may become evident clinically in the reduction of the incidence of radiation bone complications.

The decreased energy absorption in bone for high energy radiation is a significant and important phenomenon for clinical radiotherapy. This means that for clinical radiation dosimetry the presence of bone may be disregarded and dose distributions measured by a physicist in a soft tissue equivalent phantom may be applied directly to the human body. It has been the practice to do the same for lower voltage radiation but actually the formal tables of depth dose are not directly applicable and the error involved may be considerable. Much of current radiation dosimetry must be considered inaccurate while the potentiality of obtaining accurate dosimetry with high energy radiation such as cobalt-60 is excellent and a much firmer physical basis for clinical radiotherapy may be established. Obviously this means that an adequate physics laboratory must be a part of the radiotherapeutic set-up and directed by

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a radiation physicist who works intimately with the radiotherapist.

The basis for hope of improving the results of clinical radiotherapy of malignant neoplasms by the use of high energy radiation rests on physical attributes which provide (1) increased depth dose, (2) "skin sparing" action, (3) decreased lateral scattering, and (4) decreased energy absorption in bone and its soft tissue elements.

Currently in radiation therapy there is much interest in a technical method of irradiation termed "rotational" therapy. For many years radiation dose in a tumor has been augmented by the technical expedient of directing radiation beams through a number of fields on the various surfaces of the body so that they cross in and about the region of the tumor. In the volume so "cross-fired" the tumor dose becomes the sum of the increments contributed by each beam. This is a most useful technical approach enabling one to produce a zone of relatively high dose in the tumor area and relatively low dose elsewhere. A logical extension is the use of an infinite number of "cross-firing" beams and this may be achieved by rotating the patient relative to a fixed x-ray tube. In the field of high energy radiation treatment two points merit mention regarding rotational therapy. With lower voltage radiation the purpose of rotational techniques is to increase the dose in the tumor to an adequate level (this dose has been termed "tumorocidal" dose but this is erroneous; analysis can demonstrate that in most instances this is simply the maximum dose that can be tolerated by the patient systemically or more often locally in and about the tumor volume). With high energy radiation, it is entirely possible to introduce the requisite high dose in the tumor region often with only one field. The purpose of a rotational technique with this radiation is to reduce the dose outside of the tumor area. For example a carcinoma of the thoracic part of the esophagus may be adequately irradiated with only one anterior and one posterior field using cobalt-60 radiation but the entire block of tissue between the opposing fields will have about the same dose as the esophagus. Employing a rotational technique, the same dose may be maintained in the region of the lesion but the dose outside of this region is much reduced. The second point of interest is that with the introduction of isotope sources for teletherapy the bulk of the radiation source housing has been so greatly

reduced compared to that of a 2 m.e.v. x-ray machine that it has been possible to construct apparatus which moves the source around the stationary patient. Thus with the Theratron (a rotational type of cobalt-60 teletherapy unit) the patient lies in the horizontal position and the source rotates around the patient. This offers many practical advantages for clinical therapy in both rotational and convention techniques.

From a radiobiological point of view, does evidence exist which points to advantages of high energy radiation other than those derived from the physical attributes already described? Is this high energy radiation more effective in destroying tumor tissue as opposed to normal tissues? Does high energy radiation make more types of tumors responsive to radiation than is the case with lower voltage radiation? Unfortunately the answer to each of these questions is the same and in the negative. There is no evidence which indicates advantages other than those which derive from certain physical attributes already presented. Other than the "skin sparing" action, there is no evidence of an increased selective or differential effect. As far as is known today, the use of high energy radiation in no way alters the fundamental radiobiology of malignant neoplasms. Those tumors which are radioresponsive when lower voltage radiation is used are responsive to high energy radiation; those which do not respond favorably to 200-400 Kv. radiation do not respond favorably to high energy radiation. High energy radiation therapy appears to be governed by the same principles as all previous radiotherapy.

Actually there is evidence to show that high energy radiation is biologically less effective per unit dose than the lower energy radiations. Investigations comparing the biological effectiveness of high energy radiation and 200 Kv. x-rays on small biological test objects have shown that 1.3 to 1.5 times as large a dose of the high energy radiation is required as of the lower energy to produce the same effect.<sup>8,9,10</sup> This is part of a general principle evolved by Zirkle<sup>11</sup> that biological effectiveness is related to the density of ion formation along the ionizing particle tracks; the density in the case of high energy radiation is less than that for 200 Kv. x-rays. This, however, has no influence on the selective action of a radiation on tumor versus normal tissue. If observable in clinical radiotherapy it would simply mean that a somewhat higher dose level was required with

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high energy radiation. The clinical reports available in the literature on 1 m.e.v. radiation do not suggest that this is the case to any significant degree.

It is perhaps unfortunate that, in the optimism expressed by the lay press and quite apparently shared by many physicians, one aspect of high energy radiation treatment has been virtually overlooked. The very same physical attributes that provide the basis for possible improvement in clinical results make this a form of radiation capable of causing severe radiation accidents and damage to deeply situated organs and tissues. The potentiality for the creation of such untoward complications is much greater with this form of radiation. The greater depth dose and the "skin sparing" action can be a deadly combination; there is no skin reaction to function as a warning and the tolerance of mucous membranes and the vasculo-connective tissues of deeper structures may be surpassed with critical sequelae. The decreased lateral scattering, encouraging the use of small sized fields, may lead only to missing the tumor area if the latter is not properly localized and the radiation beam directed properly. Despite the limited published experience on clinical radiotherapy with high energy radiation, the literature contains ample corroboration of the potentiality for harm of this radiation. Reports of severe damage, sometimes with lethal outcome, of many internal structures (stomach, bowel, other soft tissues and bone) exist.<sup>2,12-15</sup>

High energy radiation certainly has the potentiality for raising to some degree the cure rates in certain deeply situated tumors. Indeed results reported on carcinoma of the esophagus suggest this.<sup>16</sup> However, this can be accomplished only by careful and meticulous exploitation of the physical attributes previously described with due attention to known principles of tumor and normal tissue radiobiology. High energy radiation does not displace lower voltage radiation from the armamentarium of the radiotherapist but serves

Most giant cell tumors may be adequately and safely treated by surgery followed, in some instances, by irradiation therapy.

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At present, it appears that the prognosis in cases of reticulum cell sarcoma of bone is significantly better than in most other primary malignant tumors of bone.

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The greatest hope for a really satisfactory cure rate for cancer of the stomach would seem to be an adequate screening test for cancer. Earlier diagnosis by an in-

rather to augment it. There are few workers who have had adequate experience with this entity; many problems of its clinical application remain to be solved; many technics have to be evolved. Unless careful clinical, radiobiological and physical control is exercised in these early years of expanded clinical use, the eventual losses may exceed the gains.

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crease in the index of suspicion by physicians and patients is the only apparent means at present available.

\* \* \*

Since it has been known for two decades that only early cancer is curable, and that two-thirds of all cancers in the human body can be diagnosed by a medical examination in the physician's office, why do some physicians still hesitate to make such examinations or to rule out cancer in every examination made?

\* \* \*

No physician is justified in assuming full responsibility for every case of cancer encountered in his practice.

# Slipped Upper Femoral Epiphysis

## Early Recognition and Treatment

By S. J. O'Connor, M.D., and  
J. C. Ivanoff, M.D.  
Ann Arbor, Michigan

**A**CUTE slipping of the upper (or capital) femoral epiphysis is a challenging and disabling affection of youth, one in which early recognition and appropriate treatment are of prime importance in preventing the crippling effects of the displacement.

Slipping of the upper femoral epiphysis is now recognized as a surgical emergency. The phenomenon has been variously termed epiphyseolysis, epiphyseal or adolescent coxa vara, and epiphyseal coxa anteverta. It displays the pathologic tendency of the capital femoral epiphysis to shift posteriorly and inferiorly through the epiphyseal plate, i.e., into varus position, with respect to the femoral neck. Its exact cause remains uncertain and in debate. Epiphyseal slip may be acute or chronic, abrupt or gradual. Several stages of progression are recognized in the displacement of the femoral head from its normal position centered on the axis of the femoral neck. A pre-slip stage is recognized clinically and by x-ray in which no, or very slight, displacement has occurred. The acute slipping stage implies sudden and considerable shifting of the epiphysis postero-inferior to the neck axis—actually an epiphyseal separation or fracture. In the chronically slipped stage, epiphyseal shift has gradually led to severe degrees of malposition. With closure of the epiphyseal line, concomitant with healing and remodeling of bone in the late stages of displacement and malunion, the residual stage is entered (Fig. 1).

Predisposition to displacement of the proximal femoral epiphysis has been most adequately explained on the basis of vascular disturbance at the epiphyseal plate. Softening of the plate probably under altered or abnormal endocrine influence, allows the epiphysis to shift on the proximal femoral neck through the provisionally calcifying

zone of the epiphyseal plate. The precipitating factor is almost certainly trauma, be it repeatedly minor and unrecalled or definite and severe. Factors of age and sex are relevant to causation; incidence is highest at ages seven to fifteen and mainly in boys. Among the patients, two main



Fig. 1. Left to right, models showing the normal capital femoral epiphysis, acute slip, and residual or healed stages of slipping.

endocrine types frequently are noted: the rapidly growing, dolichomorphic adolescent, and the pygmy, obese type—in the latter patients the disease is reminiscent of Froehlich's adiposogenital diathesis (Fig. 2). The mechanical factor of overweight alone may be an important cause. Other long associated factors considered to be etiologic include metabolic disease, for example, pituitary or thyroid dysfunction, and infectious suppurative processes within the hip itself.

Onset of symptoms may be painful and dramatic and definitely associated with precipitating trauma. Usually, however, the onset is insidious, with a clinical history of gradually progressing or intermittent pain in the affected hip which is very often referred along the course of the obturator nerve to the antero-superior and medial aspect of the knee on the involved side. Knee pain alone may be present, an important diagnostic point, erroneously directing attention and roentgen examination to the wrong location. There is bilateral hip involvement in 25 to 35 per cent of the cases, including many with only unilateral signs and symptoms. Therefore adequate biplane roentgen examination of both hips is necessary in all cases. Usually there is a progressively painful

From the Section of Orthopedics, University of Michigan.

Based on a television program given at the 1955 Michigan Clinical Institute in Detroit.

## SLIPPED UPPER FEMORAL EPIPHYSIS—O'CONNOR AND IVANOFF

limp, irritability of the hip, and difficulty in bearing weight. Rest relieves these symptoms; activity worsens them. On examination, irritability is quickly noted. There may be an established flex-

joint. Closer scrutiny, however, particularly of the lateral view, will reveal a widening and irregularity of the epiphyseal line (Fig. 4). Occasionally the immediately subjacent diaphyseal area



Fig. 2. A.B.—slipped upper femoral epiphysis of both hips in a twelve-year-old boy of pyknic habitus.

ion contracture at the hip. There is loss of internal rotation and increased external rotation; loss of abduction and increased adduction. It is important to note that when actively flexed, the hip demonstrates flexion combined with external rotation (Fig. 3). Thigh atrophy may be evident, and perhaps discrepancy in the length of the legs.

In the pre-slip stage, the symptoms may be so minor as to be overlooked, and there may be no disability at all. The complaint may be of knee pain only, with clinical findings limited to irritability of the hip and slight groin tenderness. X-ray films, both antero-posterior and lateral views, will demonstrate an almost normal hip



Fig. 3. Patient in Figure 2 demonstrating hip flexion with external rotation on the right.

of the proximal neck will have a moth-eaten appearance with rarefaction in the proximal medial aspect.

Gradual slipping of various degrees, minimal to severe, can occur early with unrecalled specific history of trauma. Symptoms are progressive and clinical findings will be those described above. Roentgen examination in antero-posterior and lateral projections will now demonstrate postero-inferior positioning of the femoral head (Fig. 5). This may possibly be noted as a very slight varus position of the head in the antero-posterior view. The important lateral views, however, reveal posterior displacement of the head on the neck. In severe degrees of slipping the displacement will be quite obvious roentgenographically in all projections.

When there is an acute slip, a relatively rare occurrence, it is usually associated with definite trauma. Excruciating, disabling pain is experienced, and the clinical findings are characteristic of hip fracture, with tenderness, swelling, and marked irritability. The extremity is held in an attitude of external rotation, adduction and apparent shortening; x-ray films reveal various degrees of displacement of the femoral head posteriorly and inferiorly depending on the degree of slip (Fig. 6).

The imperative necessity for treatment as soon as the diagnosis is established is illustrated by the case of a boy, aged fourteen, who had a diagnosis of early slipped upper femoral epiphysis made

## SLIPPED UPPER FEMORAL EPIPHYSIS—O'CONNOR AND IVANOFF

clinically and by x-ray and who was scheduled for operation. He was allowed to return home for a day, with instructions to walk on crutches and bear no weight on the affected joint. How-

complete slips necessitate open reduction with internal fixation.

Definitive therapy has evolved over a considerable period, progressing from non-operative to

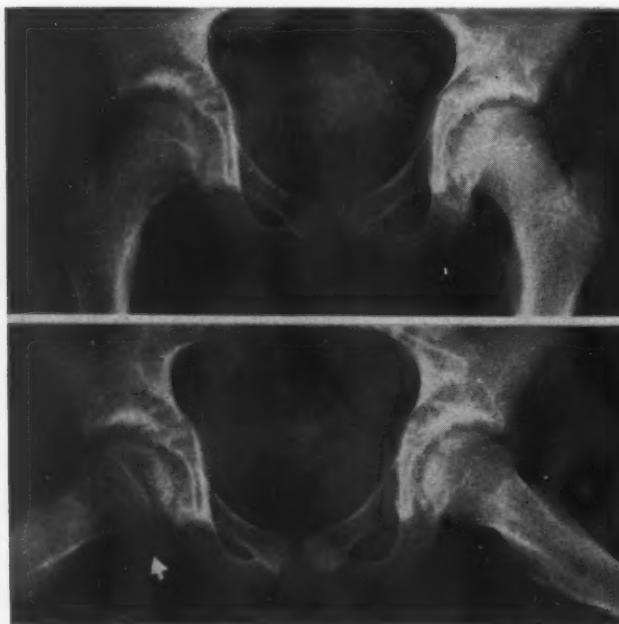


Fig. 4. Antero-posterior and lateral views of an eleven-year-old patient in pre-slip stage. Widening of epiphyseal plate is seen to advantage in lateral view of right hip.



Fig. 5. A.B.—antero-posterior and lateral projections of hips of patient shown in Figures 2 and 3. The heads are postero-inferiorly displaced. Early slips.

ever, he did not return for two weeks, and then because of a complete epiphyseal slip (Fig. 7). He admitted having engaged in sports during this period. His operative treatment was considerably more extensive than first contemplated, and prognosis accordingly less favorable.

Slipped capital femoral epiphysis must be differentiated from early tuberculosis of the hip, congenital coxa vara, coxa plana, subacute infectious processes and fracture. When a positive diagnosis of slipped upper femoral epiphysis of any type or stage has been established clinically and by roentgen examination, it should be considered an urgent indication for surgical treatment. In the case of acute complete traumatic slip, a surgical emergency exists. The patient should be removed immediately from weight-bearing, to prevent the onset or the progression of epiphyseal displacement, and placed in axis traction for relief of pain and spasm and for immobilization of the extremity. Prompt surgical operative therapy designed to insure closure of the epiphyseal plate, while maintaining rigid head-neck fixation, is indicated. Pre-slips and early minimal to moderate slips are transfixed *in situ*. Severe and acute

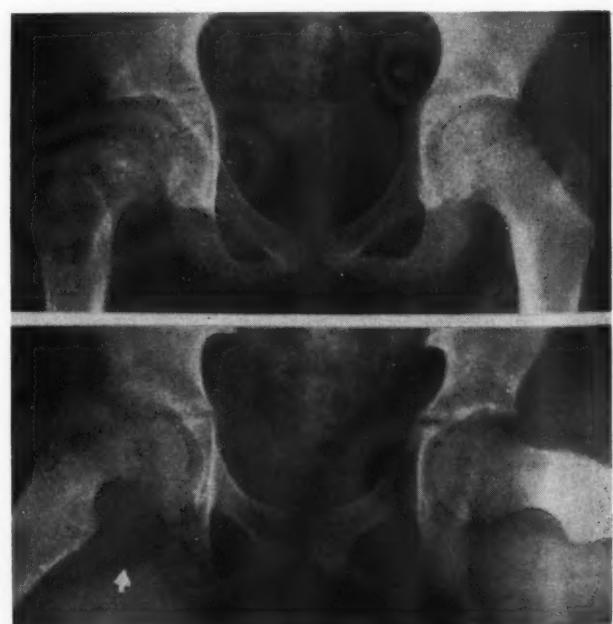


Fig. 6. J.S.—acute complete traumatic slip.

operative treatment. It is now clear that bed rest, traction alone, manipulation and casting, bracing, splinting, non-weight bearing crutch-walking, and endocrine therapy are measures

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## SLIPPED UPPER FEMORAL EPIPHYSIS—O'CONNOR AND IVANOFF

which, singly and in combination, are considerably short of definitive. It is well recognized, for example, that slipping can occur and progress while the patient is at rest in a hip spica cast. Surgical

Medical aspects of therapy should not be overlooked. Weight reduction is essential. If there are specific indications for endocrine therapy, e.g., in the case of hypothyroidism or pituitary disease,



Fig. 7. M.I.—aged fourteen, with x-ray evidence of progression from early to complete slip in a two-week period. Note dates. There was known precipitating trauma in this case.

therapy is directed toward three objectives, according to the type and degree of displacement: (1) internal fixation *in situ*; (2) reduction—manipulative and/or open—and internal fixation, and (3) osteotomy, either transcervical or subtrochanteric with internal fixation, to correct established deformity. These techniques are designed to transfix and immobilize the epiphysis until closure of the epiphyseal line has occurred. Weight-bearing is not resumed until there is roentgenographic evidence of epiphyseal closure, usually in a matter of two to four months. Various internal fixatives such as nails, blades, pins, bone pegs, and screws, have had their vogue. Bone-pegging operations have been advised but they afford only poor mechanical transepiphyseal fixation. It is debatable whether bone-pegging promotes earlier epiphyseal closure.

The most satisfactory operative method appears currently to be the inserting of wood screws in the long axis of the neck so as to cross the epiphyseal plate and transfix head and neck. Hips with pre-slip are internally fixed with two screws, as are minimal slips, including displacements of not more than one-third the diameter of the femoral epiphysis. Greater displacements require careful open reduction and fixation (Fig. 8).



Fig. 8. A.B.—two-screw internal fixation following open reduction of early slip. Same patient as in Figures 2, 3 and 5.

this should be instituted.

If a slip is not recognized early, the hip may progress to the chronic healed stage, necessitating one of several types of osteotomy to correct the amount of deformity and improve the function of the extremity.

### Conclusions

1. Emphasis should be placed on early recognition of slipped upper femoral epiphysis. Even if the initial roentgen examinations is negative, repeated clinical and roentgen examinations may confirm a suspicion.
2. Once diagnosis is established, only operative therapy is definitive therapy.
3. Roentgen examination is incomplete unless the x-ray films include biplane and bilateral views.

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# Detroit Surgical Society

Meeting of November 28, 1955

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## DIVERTICULA OF THE JEJUNUM AND ILEUM

By PAUL J. CONNOLLY, M.D.

Osler, in 1881, described a case of multiple small bowel diverticulum. Since then, 400 cases have been reported. The author presents seven cases he has seen, and four others found by other Detroit doctors.

The incidence appears to be about 0.5 per cent, but has been reported as high as 1.3 per cent. They are difficult to find since they present no definite symptom complex, and are difficult to demonstrate by x-ray.

This diagnosis should be considered when vague abdominal symptoms are present. Medical treatment suffices in most cases, but where this is unsatisfactory, or where complications arise, resection of the involved segment of bowel is the best procedure.

## A STUDY IN THE PREVENTION OF TRANSFUSION HEPATITIS

By E. R. JENNINGS, M.D., WILLIAM HINDMAN, M.D., and O. A. BRINES, M.D.

A study is in progress at the Detroit Receiving Hospital to determine the usefulness of the thymol turbidity test for the exclusion of blood donors who may serve as carriers of the virus of transfusion hepatitis. About 3 per cent of blood donors have a thymol turbidity of their serum in excess of 8 Shank-Hoagland units. To date, 117 patients have returned for follow-up studies after having received whole blood from apparently healthy donors who had positive thymol turbidity tests. Six of these recipients have developed hepatitis and an additional six patients have some clinical or laboratory findings suggestive of this disease. The incidence of hepatitis in these recipients is from ten to twenty times that which is expected in ordinary civilian blood transfusion service. It is, therefore, recommended that these tests be a routine post-transfusion study of the donor, and that the blood from donors whose thymol turbidity tests are in excess of 8 Shank-Hoagland units be not used for whole blood transfusion. That the thymol turbidity test will not entirely eliminate this hazard of blood transfusion is illustrated by the presentation of ten cases of serum hepatitis, in which all of the donors for these transfusions had negative thymol turbidity tests.

## CARCINOMA IN SITU OF THE UTERINE CERVIX

By LYNDON LEE, M.D., P. J. MELNICK, M.D., and HARRY WALSH, M.D.

Cytologic screening was carried out in over 8,500 women in Puerto Rico. Pelvic examination and biopsy of the cervix was performed in 584 cytologically suspicious cases. Sixty-seven cases of carcinoma *in situ* were thereby discovered and certain abnormal hyperplasias were found in a large series of these histologic specimens. Significant series of each of these entities including carcinoma *in situ* are being followed untreated to determine their ultimate fate.

Sixty-seven cases of carcinoma *in situ* were discovered in this study. Fifty-three of the sixty-seven cases have been followed up to three years with cytology every month and biopsy every six months. Thus far, there has been no evidence of invasion in any of these fifty-three cases. Follow-up is planned to continue indefinitely unless histologic evidence of invasion develops.

In twenty-two cases of carcinoma *in situ*, follow-up biopsies consisting of endometrial curettings, endocervical curettings, squamocolumnar junction biopsies, biopsies of the portio, and biopsy of the vaginal mucosa are being examined by histochemical methods. Glycogen and PAS positive material in varying amounts are found in the areas of carcinoma *in situ* in all cases. Other histochemical studies are in the process of being carried out and will comprise a portion of this report.

In the course of these studies, five cases were encountered in which other neoplastic processes were discovered adjacent to the carcinoma *in situ*. These will be discussed. The suggestion is that the occurrence of carcinoma *in situ* reflects a tendency of the involved cervix as a whole to develop neoplasm. The possible role of the abnormal hyperplasias as stages in the evolution of invasive neoplasm is postulated. Methods for developing agreement in terminology, classification and interpolation among various systems is needed in clinical, cytologic, and pathologic categories for the study of these entities. Possible methods are presented.

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From the Cancer Program of the Government of Puerto Rico and the Wayne County General Hospital, Eloise, Michigan.

## Looking Up

During the last few years, I have met many doctors of medicine under many different circumstances. To my knowledge, I have never met a doctor who doesn't believe in God or have a deep respect for religious people. Yet, frankly, how many of us doctors make use of one of the greatest sources of power in the world—*Prayer*?

A great scientist, Dr. Alexis Carrel, has said "Prayer is a force as real as terrestrial gravity. . . . When we pray, we link ourselves with the inexhaustible motive power that spins the universe." We dare not ignore a power like that.

Look at the strides that have been made in the science of medicine during the last thirty years. You cannot help but be amazed and filled with admiration for the men of science who have made this possible. At the same time, any thinking man is grieved and bewildered that we have made so little progress in human relations. We can do more now for sick people in a shorter time than ever before. But are we able to help them more morally and spiritually?

The charge has been made that today's doctors are too materialistic. But most of the doctors that I know are dedicated men, concerned for people, putting service above self. When a doctor is asked what gives him the most real pleasure, he usually tells you how he has helped some individual. Rarely does money enter the picture there. Notwithstanding, many people think that doctors are too concerned with material things.

Perhaps this ought to be a warning to us. Perhaps, in our prosperity and self-sufficiency, we are forgetting the Source of all things—God. We need a moral and spiritual renaissance if we are to keep people's confidence and trust.

That is why I call us to renew our faith in prayer. There are many threats to the health welfare of our nation. In order to give the best medical care and improve human relations, we need to pray. To pray is not a sign of weakness. It takes courage for a man to recognize and admit his limitations, to rid himself of arrogance and humble himself before the Almighty. Great men pray. Only little men feel no need of prayer.

We doctors are justly proud of our position, our training and experience. We would like to be looked up to, in the finest sense. We must, then, never forget that the man who is looked up to is the man who each day himself spends some time in "Looking Up."

*President's*



*Message*

A large, cursive signature of "W. Jones" in black ink.

*President, Michigan State Medical Society*

# Editorial

## DEDICATION

THE JOURNAL is happy to dedicate this number to the University of Michigan Medical School in recognition of its great progress and ever-increasing facilities. It is now graduating probably as many students as any medical school in the world.

The papers from Ann Arbor published in this number were especially prepared by a committee appointed by Dean A. C. Furstenberg.

## TWO COURT DECISIONS

Occasionally, medical problems get before the courts, and decisions are made. In the not too distant past, the Michigan Supreme Court, in a decision bearing upon a group of tax-supported hospitals, quashed all authority except the State Board of Registration in Medicine, to limit or in any way control the medical practice in those hospitals.

*Albert vs. Grand View Hospital et al.*—The Supreme Court of Michigan on November 30, 1954, ruled:

(15) "The defendant board of trustees has no power, by rule, regulation or otherwise to regulate the practice of medicine or surgery in Grand View Hospital.

(16) "Articles (ten listed) do so attempt to regulate the practice of medicine and surgery in Grand View Hospital and consequently they are void and of no effect and the same are hereby set aside.

(17) "The lawful power to discipline any duly licensed physician and surgeon or to suspend or revoke his right to practice in any public hospital organized and existing under Public Act 1913 No. 360 as amended, is exclusively committed to the State Board of Registration in Medicine."

Quoting from an editorial in *THE JOURNAL OF the Michigan State Medical Society*, March, 1955, page 342:

"If such police power has been delegated to the State Board of Registration in Medicine in one hospital, what is to prevent the same application to rules made in any other."

Reporting that decision, we suggested that only one step further would completely negate the efforts of all the specialty boards and others to in-

sure to our patients well regulated and trained medical attendants.

A suit January 21, 1955 (JMSMS, page 483, April, 1955) in Allegan County attempted to circumvent the controls in another hospital and force staff acceptance in spite of medical and hospital regulation, claiming interference with the plaintiff's practice of medicine. Part of that suit is still pending, and its outcome could be vastly important.

Now a district court in Iowa has decided another point. Groups of doctors for years have complained that they were not recognized as doctors—that the medical societies ignored them, that Blue Cross—not Blue Shield—paid for their services. We refer primarily to laboratory workers—pathologists, radiologists, physiatrists, who are actually or apparently employees of hospitals. The medical societies and medical service plans have been unable to resolve the problem but have advised these groups to make their own contact with patients, to render their own bills and be assured of professional recognition.

The Court of the Ninth Judicial District of Iowa, on November 28, 1955, rendered a decision. The essential part was mentioned last month on page 10. The Court decided that:

"The work done by the pathologist, radiologist, and the technicians working in the pathology and x-ray laboratories constitutes the practice of medicine.

"The privilege of practicing medicine is a personal one requiring qualifications which cannot be met by a corporation.

"If the non-profit corporations operating hospitals are to practice medicine it is for the legislature to say by proper definite legislation.

"It is the conclusion of the Court that the pathologist or radiologist by permitting a hospital to bill for medical services in the name of the hospital without the consent of the patient or his legal representative, violates the provision of subsection 4 of section 147.56."

The District Court opinion stands unless reversed by the Supreme Court.

This decision in Iowa raises questions about long-continued practices. According to this ruling, most of the hospitals in Michigan and in other states are guilty. Some famous institutions and many famous doctors would come under this rul-

## EDITORIAL

ing. How about the great clinics which employ doctors not only as laboratory specialists, but as internalists or as surgeons. Some corporations in Michigan whose doctors are salaried charge their patrons for room, board, and medical services.

At the AMA Boston meeting, the Iowa Medical Society officials were much concerned. Most thought the case would surely go to the Supreme Court, while others figured some way around it would be found.

The Iowa opinion to date is the only controlling court decision, and surely opposes some practices which the AMA has condoned. We shall see. In the meantime, certain of our doctors and most of our hospitals must beware.

## 1956 LEGISLATION

ANOTHER piece of legislation needed on the national level is provision for payroll withholding for federal employees. This refers to Community Chest Funds, Government Savings Bond, Prepayment Health Insurance, et cetera. The Post Office employees would have subscribed for Michigan Blue Cross and Blue Shield many years ago if this could have been arranged. It would be so simple. A very short permissive joint resolution would do, or a regular act of Congress. Years ago, Senator Taft made that proposal but his federal health program fell through.

Another permission needs to be granted. The various State Departments of Social Welfare should be allowed to pay doctors (and hospitals) directly for various services rendered to Old Age Assistance, dependents and the blind. This is a program using federal funds with matching by the states or local counties. The President, in his program last year on the health of the nation, advocated solving this problem. One of the suggestions was the "reinsurance" which was to allow insurance for such people who are not now insurable. He still advocates action.

Recently a communication from the A.M.A. headquarters offices in Washington, D. C., asked for suggestions on how to solve this problem. Conferences in Michigan about seven years ago with medical representatives, the Michigan State Department of Social Welfare and Michigan Medical Service uncovered the unsatisfactory present payments to the patient who is supposed to pay the doctor, but sometimes does not.

The Department of Social Welfare was willing to contract with one of the County Medical Societies (Calhoun) for a trial run to determine the feasibility and costs. The County Society at that time was willing to try it for a year on the exact payments the Department had been doling out to the patients for medical care. An actual saving was anticipated, and Michigan Medical Service was willing to administer the program as an experiment. The program was ready to start but the Federal Government disapproved because of the policy that since federal funds were involved, the Department could not pay the doctor direct, but must give the money to the patient.

We suggest permission for such payments, if and when the Department wishes. The argument that such payments are unlawful fails because that has been done by the Veterans Administration for ten years in home town care of service-connected disabled veterans.

## DEPENDENTS OF THE MILITARY

PROPOSALS to provide medical care for dependents of the military have been many. Service men's families have been eligible for care in military hospitals, if available. (Many doctors have been drafted into the service to care for these people and we object to this draft). Care for those where service hospitals are not accessible is the especial problem. Authorities have been conferring on providing all medical care through some form of insurance. Blue Shield and Blue Cross have been active in offering their services.

The administration now seems especially interested and would like estimates of the exact costs for this complete full coverage. Again figures are not known, as this has never before been done. The Blue Shield Commission has proposed a trial of cost plus administrative expense plus a small percentage for profit. With the enormous number which will be involved and the removal of several million of potential patients from the field of private practice into a rapidly growing total of government medicine, we should not be asked to forego a reasonable profit. If this service is to be offered to these dependents, government must recognize its responsibility. The government must be prepared to underwrite the risk instead of expecting private citizens to do so.

## EDITORIAL

### WE CAN'T GO BACK

BLUE CROSS and Blue Shield were born in times of duress. The health care of most of our people had become more and more the responsibility of relief agencies and the Government Social Security departments. The early 1930's found industry and our national economy in bad straits. There was no money, few jobs and no security in any jobs, but our patients still became ill. Hospitalization in many cases was an impossibility, and in most a complete calamity. The medical profession answered sick calls then if they wished to eat, but the patients could not pay—at most perhaps a dollar, and we remember many of our people paying twenty-five cents a week. Even doctors were actually on the relief rolls.

There were casualty and health insurance companies which paid their insured up to \$25.00 a week for loss of time due to accident or illness, but the first week did not count. The profession begged for more realistic insurance and were told medical and hospital insurance was impossible. In various parts of the country, there were a few small hospital insurance plans in operation and doing a fair job, but there was none in Michigan. Medical Service plans that would care for the catastrophic cases in the hospital were dreams that after ten years materialized. Michigan was the first to have a plan on any great scale, although California inaugurated a limited plan a month before we did. There were some small plans in Oregon and Washington, and one at Baylor University, but we had no information on them.

Our pioneers envisioned a service for those whose needs were desperate. In those days, a hospitalization of several days' duration used up all the reserve most of our people had saved, and for the majority made a debt for months or years to come. Complete health service was undreamed of. MMS started with only surgery in the hospital and only those cases so severe they must be hospitalized. When Battle Creek started on serious plans, a company in Detroit was found which sold limited hospitalization insurance. Before establishing the medical care plan, more than 2,000 policies were sold in Battle Creek giving much relief for our patients' difficulties.

The Michigan Society for Group Hospitalization (Michigan Hospital Service) started operations in 1939, and Michigan Medical Service followed a year later, selling its first certificates for

surgery in the hospital for 40 cents a month. That was absolutely ridiculous, but was made to work. The intention was only to cover surgery which could not be done in the home or office but required hospitalization.

The two plans were sold together, as Michigan Medical Service was not salable without Michigan Hospital Service. Our patients and organized labor were "sold" at once, as indicated by the rapid growth. But demands soon came for more benefits. Patients began demanding to go to the hospital for minor surgery, and the hospitals were not averse to this because they could operate better with more beds occupied and could make their finances balance—an almost unknown fact. Previously, most hospitals had been heavily endowed, but those endowments were getting scarce because of confiscating taxes; of the great depression and of the consequent unemployment. Soon there were no rich fortunes to leave money for hospitals. Taxes had done a job. Then most hospitals were beneficiaries of our "relief funds" or "welfare funds," later called "Community Chest."

With Michigan Hospital Service paying increasingly higher percentages of hospital bills, all hospitals having consequently fewer uncollectible accounts were glad to receive the added patients. The public clamored for increased service, employment was the same, and everyone seemed to accept the increased usage. Michigan Hospital Service was forced to increase premium rates frequently in order to cover this increased usage. Michigan Medical Service soon (although that was over ten years ago) increased its rates to cover more liberal demands of service. Constantly, during the years, items of service have been added. Whenever Michigan Hospital Service has to ask increased rates, we hear our doctors complain of one item in particular. Why make these people go to the hospital to be cared for? Liberalization authorizing certain surgery in the office was tried, but abuses were uncovered.

A situation had developed which can not revert to other times. Policies have been established by three demands: the patients for more liberal care, the hospitals for more bed usage, and the doctors to satisfy their patients, for they could have done most of the minor surgery in homes or offices as first intended. Michigan Hospital Service now has found it necessary to ask rate increases, and labor is protesting to the insurance commissioner not to grant increased rates. Union officials knew

## EDITORIAL

well what would happen. They actually argued at the Board meeting authorizing the rate increase request, that the hospitals economize and absorb the extra costs.

We quote from Ford Local's resolution sent to the Governor, legislature and Congress:

"Private hospital, medical and surgical insurance is necessary because of the lack of an overall government program securing the health of the people" and "we demand of our representatives in Congress and the State Legislature to intensively press for state and national legislation which will afford all with proper overall medical care without cost of the individual."

James Brindle, Director Social Security Department UAW-CIO, at the Annual Meeting of the American Association of Medical Clinics in Minneapolis on November 5, 1955, said:

"...to some extent, labor's views can be read in what it had done about health care. Both major labor federations and practically all individual unions have backed and continue to support federal legislation for a national health insurance program." . . . "A recent study in Michigan indicates that as much as 19 per cent of hospital bed care constitutes faulty use in term of the medical necessity for hospitalization. In other words practically one-fifth of the premium is wasted."

The Union has notified the state officials and federal congressmen of their demands that "if the doctors and the hospitals" cannot solve these problems, they will reiterate their all-time ambition that Government take over the health care and give it "without cost" to all the people. Does this mean that labor is determined to cause the insolvency of the Michigan Hospital plan as a step in their long-time program of socialism?

In five years organized labor has caused 86 per cent of the increased hospital costs by increases of its own wages. They should accept new adjustments in the hospital the same as for automobile prices. Instead, they are continuing to ask for health services at "no cost" to themselves. Socialized Medicine is still actually their goal.

### BLUE CROSS RATE INCREASE

**M**ICHIGAN Hospital Service and the requested premium rate increase has been stressed because of several items with which our doctors may not be familiar.

There has been a steadily advancing rate of utilization, as we have reported. Also, the stay in

the hospital which lessened for a while under "early ambulation" now seems also to be on the increase. About 90 per cent of the greater costs are in the personnel department with more employees, fewer hours, and more pay. All other costs combined have advanced very slowly.

The doctors are getting the blame. We hear the complaint from labor leaders that it is the doctors who send the patients into the hospital, issue orders for services, and then release them. Labor also claims Michigan Medical Service is increasing its rates, which is absolutely not true. Read this from Ford Local No. 600:

"Resolution opposing the proposed increase in Blue Cross and Blue Shield Rates"—"Whereas the services rendered by Blue Cross and Blue Shield have not increased in comparison with the premium rate increase which already amounts to approximately 100 per cent since 1948."

Blue Cross hopes to continue the services its subscribers have demanded. Labor's wages and ancillary benefits have probably almost reached 100 per cent during this same period, yet have their services increased? The hours have lessened and the work capacity hopefully is equal, but those costs have increased. Industry has accepted the inevitable, why not the union leaders?

**EDITOR'S NOTE.**—On January 9, the Insurance Commission granted a 15 per cent increase. For the second time too little is allowed and too late to become effective in February as was asked.

### A PUBLIC TRUST

One Thursday in November, 1947, the late Senator Arthur H. Vandenburg asked his physician, A. B. Smith, M.D., of Grand Rapids, to invite some of the officers of the Michigan State Medical Society and of Michigan Medical Service to a dinner conference. After a series of questions as only he knew how to ask, the Senator said:

"You have done something in Michigan that you didn't know you were doing. You have established a public trust. Your Michigan Medical Service and Hospital Service—Blue Cross—are a public trust. You didn't intend to do it, and you didn't know you had done it, but you have. You have taken \$50 million of the people's money and used that sum for the benefit of the people. In so doing, you are the trustees of a public trust. Your Michigan Medical Service has done more than any one project to stay the progress of socialized medicine in the United States, and as long as you continue such service, no power can establish socialized medicine."

To bring the Senator's information up to date, Michigan Medical Service has paid a total of \$173,345,302.08. This includes \$23,161,127.39 for nine months of 1955. The cost of administration the first five years was 12.46 per cent. For the last five years, it has been 9.48 per cent; 9.23 per cent; 8.64 per cent; 8.76 per cent and 8.78 per cent (nine months), respectively.

## Richard H. Meade, M.D. Both Master and Student of Thoracic Surgery

Richard H. Meade, M.D., of Grand Rapids, is an urbane and pleasing gentleman; a dedicated and able physician whose work has taken him to medical centers in almost every corner of the world. He is a gentleman by heritage, a physician by choice.

Dr. Meade is a direct descendant of Andrew Meade, who came to New York from Ireland in 1685 and moved to Virginia in 1690. A military member of the family, General Everard Meade, was on General Lincoln's Staff in the Revolutionary War. Richard Meade was the first member of the family to become a doctor.

The inspiration to study medicine came during his early college days. While attending a YMCA convention in Georgia, a persuasive speaker urged the young men to choose a career in a field where they could best serve humanity. He cited the dire need for doctors in China. Dick Meade there and then decided to study medicine. In 1921, he graduated from Harvard Medical School.

Born in Richmond, Virginia, in 1897, his early schooling was gained in Richmond Academy, Virginia Military Institute, and Richmond College. He entered the University of Virginia in 1915 and received his B.S. degree two years later.

Following his graduation from medical school, he spent some months as a Fellow at Trudeau Sanatorium, interned at Willard Parker and Presbyterian Hospitals in New York, then undertook six months of postgraduate study at the University of Pennsylvania in 1924, before setting out for China. Young Dr. Meade first became an assistant resident and volunteer assistant in

surgery at Peking Union Medical College. In 1926, he became a surgeon at St. James Hospital at Anking, under auspices of the mission of the Protestant Episcopal Churches of the U.S.A.

During 1927, Chiang Kai Chek, who had been Secretary to Sun Yat Sen, China's first President and the father of Modern China, took control of

the government and moved down the Yangtze River toward Shanghai. One regiment of Chiang's troops attacked the foreigners, murdering them, and burning homes. Only the intervention of the American and British navies made it possible for any foreigners to escape. Dr. Meade, with his wife and eighteen-months-old son were among those able to leave China safely.

Returning to his native Virginia, he became Assistant Professor of Surgery in the Uni-

versity where he remained until 1931. Doctor Meade then went to the University of Pennsylvania as an associate in surgery with staff positions as associate surgeon at Episcopal Hospital, Philadelphia, and consulting surgeon at the Home of Consumptives. In 1941, he also became Chief, Division of Thoracic Surgery, Department of Tuberculosis, at Post Graduate Hospital.

Characteristically and early, Doctor Meade, who is always interested in new developments in medical and other fields, turned his attention to thoracic surgery—a branch of surgical endeavor given great emphasis during and after World War I. In these war years, a relatively small group of surgeons interested in the field began holding informal meetings, eventually organizing as the American Association for Thoracic Surgeons in 1918. Upon his return from China, Richard



## RICHARD H. MEADE, M.D.

Meade began participating in activities of this new group, which was enlarging with the rapid development of thoracic surgery.

He became that organization's secretary in 1935, serving for twelve years. This position gave him an excellent opportunity to become acquainted with members of the Association in this and other countries. From 1938 to 1947 he was an Associate Editor of *The Journal of Thoracic Surgery*, official publication of the Association, and since then has been a member of the Advisory Editorial Board.

This year, Dr. Meade is President of the American Association of Thoracic Surgery, an appropriate tribute to a surgeon who has made many contributions to surgical knowledge, and who has served this organization well.

Shortly after the outbreak of World War II, he volunteered for the Army Medical Corps and was commissioned a major in May, 1942. Dr. Meade immediately found his place as Assistant Chief of the Chest Surgical Section of Fitzsimons General Hospital at Denver. Eight months later he was transferred to Kennedy General Hospital at Memphis, where he served the remainder of the war as Chief, Chest Surgery Section, attaining the rank of lieutenant colonel. For his wartime service, Dr. Meade was awarded the Legion of Merit in 1946.

Leaving military service he accepted a position as an associate in surgery at Northwestern University and was an attending surgeon at the Hines Veterans Hospital, Chicago. In 1948, seeking a more placid background for living, Dr. Meade moved to Grand Rapids to practice and to par-

ticipate in the development of thoracic surgery in Western Michigan, with consulting positions on the staffs of Blodgett Memorial, Butterworth, and St. Mary's hospitals, and Sunshine Sanatorium.

Having the curiosity of a natural scholar, Dick Meade is an avid reader of medical literature. Always interested in writing about his own experience, he has published many articles in medical journals. He has traveled widely in this country and abroad, usually visiting medical centers.

During his most recent tour, in the summer of 1955, he visited important European centers where cardio-pulmonary surgery is done. He found cardiac work being performed much as it is here.

Dr. Meade currently is working on a history of thoracic surgery, a subject for which he is well qualified because of his own long experience and interest in this field and because of his acquaintance with the work of so many thoracic surgeons throughout the world.

Besides his medical interest, he has many hobbies. The chief avocations seem to be natural history, golf, and sunshine. He may at times be seen motoring with cartop down even in wintry Grand Rapids weather.

Dr. Meade is the father of four sons, one of whom is also a graduate of Harvard Medical School and is now Chief Resident Physician at Haynes Memorial Hospital in Boston.

Richard Meade is a sincere man, a true physician, who applies the Hippocratic principles not only in the practice of medicine but in all human relationships.

—RICHARD A. RASMUSSEN, M.D.

### ADVICE TO A PROSPECTIVE MEDICAL STUDENT

The best advice I can give you is this: from your first day in pre-med, study hard and get a good scholastic standing. Entrance to the medical school depends on several factors, but one of the most important things that is considered by a Committee on Admissions is your transcript from the Liberal Arts School. I grant you that high marks do not always indicate that the individual will be a success in medicine, but a good record does show that for the three or four years of pre-medical work he has shown ability to consistently concentrate and make good grades. Nothing is so fatal as to make a poor showing for a term or two and then get good. It is the whole course that is considered. All during your

medical course you will have to study hard. And you will have to continue to study all your life to try to keep up with the constant advances in medicine.

From the first day of your work you will come in contact with names—names of men, women, tests, chemical reactions with names attached to them. Start right off in the beginning by looking up these names. You use the microscope—who invented it? In this way, the dictionary and the medical history book will give you a valuable background for your future in the medical school and also for your life as a doctor.—W. J. STAPLETON, JR., *Detroit Medical News*, July 4, 1955.

# Michigan Clinical Institute

## Sheraton-Cadillac Hotel, Detroit

Wednesday-Thursday-Friday, March 7-8-9, 1956

### Technical Exhibits

Abbott Laboratories  
North Chicago, Ill.

Booth No. 57

A. S. Aloe Company  
St. Louis, Missouri

Booth No. 62

Visit Booth No. 62 where your Aloe representatives, Tom and Wally Boufford, will be on hand with a cross section of the complete line of physicians' equipment and supplies carried by the A. S. Aloe Company.

The Bouffords will be pleased to discuss mutual items of interest with you.

American Ferment Company, Inc.      Booth No. 64  
New York, New York

Our unique demonstration of the proteolytic activity of Caroid will explain why addition of Caroid to Caroid and Bile Salts Tablets and Alcaroid provides unusual advantages when laxation or antacid therapy is indicated. Other products featured will be the palatable Essence of Caroid for improving digestion and utilization of dietary proteins; and Supligol, the whole bile-ketocholanic acid compound for management of early biliary dysfunction.

Ames Company, Inc.  
Elkhart, Indiana

Booth No. 25

The Ames representatives, Messrs. Ralph Matheny and Roger Gosling, will be on hand to discuss AMINET, a combination of Aminophylline and Pentobarbital in a newly developed nonreactive base which melts readily at body temperatures and quickly releases the active ingredients for rapid absorption. Highly effective in relieving the paroxysms of bronchial asthma and especially valuable with epinephrinefast patients. Also of value in cardiac asthma, congestive failure, and as a diuretic and myocardial stimulant.

Audio-Digest Foundation  
Glendale, California

Booth No. 1

Audio-Digest Foundation—a subsidiary of the California Medical Association—gives the busy physician an effortless tour through the best of current medical literature each week. This medical tape-recorded "newscast"—compiled and reviewed by a professional Board of Editors—may be heard in the physician's automobile, home or office. The Foundation also offers medical lectures by nationally-recognized authorities.

Ayerst Laboratories  
Chicago, Illinois

Booth Nos. 7 & 8

Baker Laboratories, Inc.  
Cleveland, Ohio

Booth No. 52

You are invited to visit our booth where Baker's Modified Milk and Varamel, two successful products for infant feeding, are on display. Baker representatives will be glad to discuss the practical application of Grade A milk, adjusted fat composition, zero curd tension, synthetic vitamins and other important factors which help to eliminate many of the problems in modern infant feeding.

Carroll Dunham Smith Pharmacal Co.  
New Brunswick, N. J.      Booth No. 45

Chicago Reference Book Company  
Chicago, Illinois      Booth No. 73

Ciba Pharmaceutical Products, Inc.  
Summit, New Jersey      Booth No. 5

The CIBA exhibit features SERPASIL—the original, pure crystalline alkaloid of Rauwolfia. SERPASIL has been found extremely useful as a tranquilizer in treating patients whose adjustment to life is complicated by anxiety, irritability and various psychoses. Patients feel calm, yet in properly adjusted doses retain their drive and energy. It is highly effective in many conditions where barbiturates have been commonly prescribed.

Coca-Cola Company  
Atlanta, Georgia      Booth Nos. 65 & 66

Ice cold Coca-Cola served through the courtesy and co-operation of the Detroit Coca-Cola Bottling Company and the Coca-Cola Company.

Cunningham Drug Stores, Inc.  
Detroit, Michigan      Booth No. 42

A simulated dispensing counter to be erected across the back of booth, showing some of the efficient methods used in the filling of prescriptions in the Cunningham Stores.

A small stand placed at the front of the booth will display some of the services available to physicians, such as prescription blanks, product information, etcetera.

Davis & Geck, Inc.  
Danbury, Connecticut      Booth No. 63

Davis & Geck will feature their new Surgilope\* sterile suture pack. No glass tube to break. Other D&G "firsts" on display include Surgaloy® stainless steel suture, U.S.P., Spiral Wound surgical gut, silk and cotton, and Melmac® resin plaster of Paris bandage.

\*Trade-mark

Desitin Chemical Co.  
Providence, R. I.      Booth No. 22

DESITIN OINTMENT: the pioneer in external cod liver oil therapy.

Indications: diaper rash, slow healing wounds, burns of all degrees, lacerations, hemorrhoids and fissures.

DESITIN POWDER: a unique, dainty medicinal powder saturated with cod liver oil.

DESITIN HEMORRHOIDAL

SUPPOSITORIES with

COD LIVER OIL: coats ano-rectal area with soothing, lubricating cod liver oil, gives prompt relief of pain, allays itching.

DESITIN LOTION: the original cod liver oil lotion, soothing, protective, mildly astringent and healing, in non-specific dermatitis, pruritus, poison ivy, etcetera.

## TECHNICAL EXHIBITS

Detroit Creamery Co.  
Detroit, Michigan



to stop at the Sealtest booth and enjoy a complimentary bottle of Sealtest Milk.

Doho Chemical Corporation  
New York, N. Y.

Booth No. 48

The Detroit Creamery Company and Ebling Creamery Company, local distributors of Sealtest Milk and Dairy Products, invite you

Geigy Pharmaceuticals  
New York, N. Y.

Booth No. 29

MEDOMIN—a new kind of barbiturate—will highlight the GEIGY Exhibit. Indicated for safe, gentle hypnosis and reliable, sustained sedation. MEDOMIN is unique in that a 7-member ring is attached to the barbiturate radical. Also featured will be BUTAZOLIDIN, nonhormonal anti-arthritic; EURAX, antipruritic and scabicide; and STEROSAN, bacteriostat and fungistat.

Gerber Products Company  
Fremont, Michigan

Booth No. 30

WHEN MILK IS CONTRAINDICATED as the basic food for infants, Gerber "Meat Base Formula" can provide a nutritionally adequate replacement. It is well accepted and tolerated by infants of all ages. Your Gerber detailman invites you to evaluate "Meat Base Formula" and the complete line of supplementary baby foods.

You are also invited to review new editions of Gerber baby care and adult special diet booklets. Each is designed especially for distribution by physicians. Each provides non-controversial information in simple, easy-to-understand language. The service is complimentary.

Hack Shoe Company  
Detroit, Michigan

Booth No. 3

RIPPLE SOLE Shoes will be demonstrated. Latest of a long line of innovations developed by the forty-year-old Hack Shoe Co., RIPPLE Sole Shoes render walking and standing easier and more comfortable. Other Hack Shoes on display include TRIBALANCE shoes for men and women; regular and supportive shoes for children.

J. F. Hartz Co.  
Ferndale, Michigan

Booth No. 43

On exhibit in the J. F. Hartz Co. booth will be a complete line of surgical instruments, including cardiovascular and thoracic instruments. Also shown will be Welch-Allyn diagnostic instruments, the Cardi-cator and Raytheon's new E.K.G. unit.

Holland-Rantos, Inc.  
New York, N. Y.

Booth No. 61

Physicians interested in Medical Contraception are invited to discuss with H-R representatives latest information on laboratory and clinical data concerning efficacy of Koromex products. Also featured will be the trichomonacidal, fungicidal and bactericidal Nylmerate Jelly and Solution which provides an effective, low-cost, and conveniently used therapy in vaginitis cases. Ask for sample of Hollandex Medicated Skin Ointment that combines benefits of a silicone and improved lanolin base, plus natural vitamins A and D.

G. A. Ingram Co.  
Detroit, Michigan

Booth Nos. 67 & 68

A. Kuhlman & Co.  
Detroit, Michigan

Booth No. 32

A Kuhlman & Co. invite you to see an exhibit of diagnostic and surgical instruments as well as the latest examining room furniture and physical therapy equipment.

Lea & Febiger  
Philadelphia, Pa.

Booth No. 70

Be sure to see these new books and new editions: Wohl and Goodhart—Modern Nutrition in Health and Disease; Soffer—Diseases of the Endocrine Glands; Katz and Pick—Clinical Electrocardiography; Gold-

Electro-Therapeutic Instrument Co. Booth No. 36  
Chicago, Illinois

MYOFASCIATRON — The electronic automatically controlled low voltage muscle stimulator. Used in adjunct therapy for rehabilitation of atonic muscles in post fractures, sprains and strains, dislocations and other trauma of the muscle and skeletal systems. Automatic control enables the busy doctor to give patients benefits of muscle rehabilitation and stimulating therapy.

Encyclopaedia Britannica  
Detroit, Michigan

Booth No. 37

Encyclopedia Americana  
Grand Rapids, Michigan

Booth No. 33

We invite all members and guests to visit Booth No. 33 and inspect the latest edition of *Encyclopedia Americana*. As one famous librarian writes: "There is no substitute for quality in the reference field. That quality is *Americana*." ALL WHO REGISTER WILL RECEIVE BY MAIL A 48-PAGE ATLAS IN FULL COLOR WITH OUR COMPLIMENTS.

Executone Company of Detroit  
Detroit, Michigan

Booth No. 35

At the Executone Booth, there will be "live" demonstrations of Executone's latest electronic intercommunication systems, engineered and designed for use by the physician in his private offices, or in clinics and Medical Centers. Doctors will be shown how these communication systems save doctors' precious time and energy, help him see more patients each day, help him and his nurse run the office more efficiently and with less effort.

## TECHNICAL EXHIBITS

berger—Heart Disease; Master, Moser and Jaffe—Cardiac Emergencies and Heart Failure; Burch and Winsor—Primer of Electrocardiography; Bailey—Surgery of the Heart; Stimson—Fractures and Dislocations; Lewin—The Back and Its Disk Syndromes; Twiss and Oppenheim—Disorders of the Liver, Pancreas and Biliary Tract; Herbut—Pathology; and many others.

**Lederle Laboratories**  
Pearl River, N. Y.

**Booth No. 26**

You are cordially invited to visit the Lederle booth where medical representatives will be in attendance to provide the latest information and literature available on our line. Featured will be Achromycin, Incretin, Diamox, Vitamins, Pathilon, Varidase and many other of our dependable quality products.

**Liebel-Flarsheim Co.**  
Cincinnati, Ohio

**Booth No. 46**

The Liebel-Flarsheim Company cordially invites you to visit Booth No. 46 in which their latest electro-medical-electrosurgical equipment will be exhibited. We ask particularly that you stop and see the L-F BasalMeteR, the first automatic, self-calculating metabolism unit ever offered. Capable representatives will be on hand at all times.

**Eli Lilly & Company**  
Indianapolis, Indiana

**Booth Nos. 54 & 55**

You are cordially invited to visit the Lilly exhibit located in space numbers 54 and 55. The display will contain information on recent therapeutic developments. Lilly salespeople will be in attendance. They welcome your questions about Lilly products.

**M and R Laboratories** (See Ross Laboratories)

**Maico Detroit Company**  
Detroit, Michigan

**Booth No. 69**

Ninety per cent of all the precision hearing test instruments used by hospitals, schools and physicians in the United States are Maico. The new Maico Transistor hearing aid is so small and light that it is used in conjunction with one's eyeglasses. It is no longer necessary to have cords or wires on the neck or body.

**Mead Johnson & Co.**  
Evansville, Indiana

**Booth Nos. 71 & 72**

The new Deca vitamin family for the vital first decade of life will be exhibited by Mead Johnson & Company in Booths 71 and 72. Included in the new Deca family of vitamin specialties are: Deca-Vi-Sol, for dropper dosage, a fruit flavored solution for infants and toddlers; Deca-Mulcin, for teaspoon dosage, a pleasantly-flavored liquid for preschool children of two to six years; and Deca-Vi-Caps, small, easily-swallowed capsules, for school-agers of six to ten years. All three Deca vitamin specialties supply 10 nutritionally significant vitamins including A. C. and D, plus 7 important B vitamins.

**Medco Products Company**  
Tulsa, Okla.

**Booth No. 19**

The MEDCOLATOR Stimulator, for the stimulation of innervated muscle or muscle groups ancillary to treatment by massage, is a low-volt generator that will generate plenty of your interest. Electrical muscle stimulation is a valuable form of rehabilitation therapy. Be sure to visit our booth for a personal demonstration.

**Medical Protective Co.**  
Fort Wayne, Indiana

**Booth No. 34**

An unparalleled record of successfully fighting malpractice charges against doctors since 1899 distinguishes The Medical Protective Company from all others. Year in and year out 99.94 per cent of its policyholders have been completely covered under \$2,500. Exclusive application to the professional liability field makes this unique record possible.

**Meyer and Company**  
St. Clair Shores, Michigan

**Booth No. 15**

Meyer and Company will demonstrate the new anticholinergic "Almethine," which when administered twice in a 24-hour period will decrease acid secretion in the peptic ulcer patient to such an extent that supplemental antacid therapy will exert its fullest effect.

Gastralme, the only antacid which buffers stomach acid at a neutral pH, will also be shown. These two products offer the clinician the ultimate in ulcer management.

**Michigan Bell Telephone Co.**  
Detroit, Michigan

**Booth No. 60**

Our exhibit will consist of the following items of telephone equipment and service, which will be of special interest to physicians:

1. Automatic answering machine
2. Illuminated dial telephone
3. Full line of colored telephones
4. Speakerphone
5. Long distance credit cards
6. Volume control telephone

**Michigan Medical Service**  
Detroit, Michigan

**Booth No. 4**

You are cordially invited to visit our booth to obtain current information regarding Michigan Medical Service (Blue Shield). Our representative will gladly visit with you and answer any questions you may have with regard to your Blue Shield Plan.

**Miller Surgical Co.**  
Chicago, Illinois

**Booth No. 20**

MILLER SURGICAL COMPANY will show the Miller Electro-scalpel and accessories such as Snares, Suction Coagulation attachments, Suction Tubes, and Grasping Forceps. This is a cutting, coagulating, desiccating and fulgurating unit that may be used for all office surgical procedures as well as light major surgery of the eye, ear, nose, throat, vagina and rectum. A complete line of Diagnostic Equipment consisting of Illuminated Otoscopes, Ophthalmoscopes, Eyespud with Magnet, Transillumination Lamps, Headlites, Vaginal Speculums with Smoke Ejector and Gorsch Operating Scopes and Stainless Steel Proctoscopes, all sizes with magnification, will also be on display.

**C. V. Mosby & Company**  
St. Louis, Missouri

**Booth No. 51**

**V. Mueller & Company**  
Chicago, Illinois

**Booth No. 40**

**Parke, Davis & Company**  
Detroit, Michigan

**Booth No. 31**

Medical service members of our staff will be in attendance at our exhibit for consultation and discussion of various products. Important specialties such as Penicillin S-R, Benadryl, Ambodryl, Dilantin Suspension, Vitamins, Oxycele, Milontin, Amphelease,

## TECHNICAL EXHIBITS

Chloromycetin, Thrombin Topical, et cetera, will be featured. You are cordially invited to visit our exhibit.

### Pfizer Laboratories Brooklyn, New York

Booth No. 9

The Pfizer exhibit again will be in the spotlight with its new and original concept of anti-stress, anti-infective therapy—TETRACYN S.F. and TERRAMYCIN S.F. (Stress Fortified). Also, the complete line of Pfizer antibiotics and STERAJECT as well as the new specialties, BONAMINE, TYZINE, TOCLASE and the complete line of steroid hormones including CORTRIL and the latest corticosteroid STERANE (brand of prednisolone).

### Purdue Frederick Company New York, New York

Booth No. 56

The Purdue Frederick Company will feature: SENOKOT—new, non-bulk, non-irritating constipation corrective acting selectively on the parasympathetic (Auerbach's) plexus in the large bowel, physiologically stimulating the neuromuscular defecatory reflex. PRE-MENS—the multidimensional premenstrual tension therapy. COLPOTAB—a tested effective Tyrothricin trichomonacide. CHLOROGIENE—a hygienic douche formulation will also be presented.

### Randolph Surgical Supply Co. Detroit, Michigan

Booth Nos. 12 & 13

### R. J. Reynolds Tobacco Co. Winston-Salem, N. C.

Booth No. 11

Welcome to the R. J. Reynolds Tobacco Company exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, CAVALIER King Size, or WINSTON, the distinctive new king size filter cigarette.

### A. H. Robins Co., Inc. Richmond, Virginia

Booth No. 28

Physicians attending the meeting of the Michigan Clinical Institute are extended a cordial invitation to visit the exhibit of the products of the A. H. Robins Company. Experienced medical representatives will be in attendance to welcome you and answer inquiries relative to any of Robins prescription specialties.

### Ross Laboratories Columbus, Ohio

Booth No. 24

Ross Laboratories: Current concepts in infant feeding stress the critical aspects of preventive care. Visit our booth at your convenience; your Similac representative will be happy to discuss the physiologic role of Similac Powder and Similac Liquid in providing good growth, sound development and optimum clinical benefits. Reprints of current pediatric investigations and the latest Ross (M & R) Pediatric Research Conference Reports are available.

### Sanborn Company Cambridge, Massachusetts

Booth No. 18

Featured at the Sanborn Company Booth No. 18 will be a continuous demonstration of the new Sanborn Viso-Scope, a 5-inch cathode ray oscilloscope, specially designed for use with the Sanborn direct-writing electrocardiographs, such as the famous Viso-Cardiograph—as well as with more elaborate recording systems used in the research laboratory. In addition, full information will be available on

Sanborn systems, both direct-writing and photographic, for the recording of physiologic phenomena in from one to eight channels: on the new Sanborn Physiologic Pressure Transducer; and on the Vector System, Electronic Switch, and other new Sanborn transducers and supplementary instruments for cardiovascular diagnosis.

### Sandoz Pharmaceuticals Hanover, N. J.

Booth No. 16

Sandoz Pharmaceuticals cordially invites you to visit our display at the Michigan Clinical Institute—Booth No. 16.

FIORINAL—A new approach to therapy of tension headaches and other head pain due to sinusitis and myalgia.

PLEXONAL—A new hypnotic-autonomic and central acting drug potentiates the action of sub-threshold doses of classic sedative agents.

BELLADENAL—Anti-spasmodic sedative for the control of hypermotility with pain and hypersecretion of the intestinal tract.

Any of our representatives in attendance, will gladly answer questions about these and other Sandoz products.

### W. B. Saunders Company Philadelphia, Pennsylvania

Booth No. 2

Among the most useful of 1956 books for the practicing physician are: Hinshaw and Garland: Diseases of the Chest; Current Therapy 1956; Sodeman: Pathologic Physiology, 2nd edition; Bland: Fluid Balance, 2nd edition; Laughlin: Neuroses; and Wolff: Electrocardiography, 2nd edition. These will be displayed along with our standards such as: Cecil-Loeb: Textbook of Medicine; Nelson: Pediatrics; Dorland: Dictionary; and the ever popular Medical, Surgical, and Pediatric Clinics of North America.

### Schering Corporation Bloomfield, New Jersey

Booth No. 6

A cordial invitation is extended to the members of the Michigan State Medical Society to visit the Schering exhibit, Booth No. 6. The entire exhibit will be devoted to METICORTEN and METICORTELONE, the new corticosteroids for the treatment of rheumatoid arthritis, intractable asthma and other so-called collagen diseases. Extensive clinical and laboratory data demonstrating certain advantages of these new steroids over cortisone and hydrocortisone are shown.

### G. D. Searle & Co. Chicago, Illinois

Booth No. 74

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research. Featured will be Mictine, the new safe, non-mercurial oral diuretic; Vallaestril, the new synthetic estrogen with extremely low incidence of side reactions; Banthine and Pro-Banthine, the standards in anticholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nausea.

### Sharp & Dohme, Inc. Philadelphia, Pa.

Booth No. 21

The Sharp & Dohme exhibit presents highlights on steroid therapy featuring "Deltra," "Hydeltra," and related adrenal cortical steroid preparations in endocrine disorders, collagen diseases, respiratory allergies, eye diseases and skin conditions. Expertly trained personnel will be pleased to discuss new dosage forms, new indications, and the latest summaries of advanced clinical reports in this field.

## TECHNICAL EXHIBITS

### Smith, Kline & French Laboratories Philadelphia, Pennsylvania

The S.K.F. booth will feature the latest clinical information about THORAZINE® (chlorpromazine, S.K.F.) and its many varied uses in nausea, vomiting and hiccups; anxiety and tension states; alcoholism; intractable pain; behavior disorders in children; surgery and obstetrics; senile agitation; and the emotional stress associated with certain somatic conditions.

### E. R. Squibb & Sons New York, N. Y.

E. R. Squibb & Sons has long been a leader in development of new agents used in prevention and development of disease. The results of diligent research is quickly made available to the Medical Profession as new products or improvement on products already marketed.

At Booth No. 44, we are pleased to present up-to-date information on these advances for your consideration.

### The Stuart Company Pasadena, California

All physicians attending the meeting are cordially invited to visit the Stuart exhibit. You will find Stuart salesmen very willing to talk over or answer any questions pertaining to the Stuart line.

### Testagar & Co., Inc. Detroit, Michigan

TESTAGAR & CO., INC. will show three new timed disintegrating capsules. TIMED PYMADEX is a trisynergistic antihistamine in a timed disintegrating capsule composed of three proven antihistamines. Smaller than average doses of each are used, thereby minimizing possible side reactions to the patient and still affording the patient a maximum of effect. TIMED PYMADEX CAPSULES, a daytime partner to Timed Pyma Capsules also contains 6 mg. of Dextro-Amphetamine to overcome any possible soporific after-effects of the antihistamines and give the patient a sense of well being. One TIMED PYMADEX CAPSULE at breakfast and one TIMED PYMA CAPSULE before retiring affords the patient protection around the clock. TIMED BARTROPIN CAPSULES are an antispasmodic capsule using tried and proven Atropine. One capsule at breakfast affords ten to twelve hours' (all day) antispasmodic activity. Samples and literature will be available.

### S. J. Tutag & Company Detroit, Michigan

At the S. J. Tutag & Company exhibit, will be featured Asminorel. This tablet provides both instant and prolonged relief in asthmatic conditions in the single dosage form.

The outer layer affords prompt relief through sublingual absorption. After ninety seconds the Nucleus is swallowed, giving prolonged relief for four hours.

### The Upjohn Company Kalamazoo, Michigan

Members of the medical profession are invited to visit the Upjohn booth where members of The Upjohn Company professional detail staff are prepared to discuss subjects of mutual interest.

### U. S. Vitamin Corporation New York, N. Y.

Our exhibit will feature C.V.P., a water-soluble, more active citrus flavonoid compound (vitamin P com-

### Booth No. 17

plex) potentiated by vitamin C. C.V.P. has been found to be highly effective clinically . . . proved by more than 2,000 cases thus far reported . . . in increasing capillary resistance and checking bleeding due to capillary fragility in hypertension, diabetes, purpura, uterine bleeding, post-surgical bleeding and other hemorrhagic conditions. It has also been found valuable in controlling symptoms and reducing fever in the common cold, influenza, pharyngitis, tonsillitis and certain respiratory infections.

Professional samples and literature on C.V.P. and other of our nutritional specialties will be distributed at our booth.

### Wayne University College of Medicine Alumni Detroit, Michigan

### Booth No. 47

A scientific exhibit prepared at the Wayne University College of Medicine as a result of basic and clinical research performed at Detroit Receiving Hospital and Grace Hospital. In addition, photographs and descriptions of the Detroit Medical Center, including the campus of the Wayne University College of Medicine, will be featured.

### West Disinfecting Company Detroit, Michigan

### Booth No. 41

WESCODYNE, the original "tamed iodine" non-selective germicide accepted for hospital use. WESCODYNE at dilutions of 3 oz. per 5 gallons of water (75 ppm available iodine) will kill the following micro-organisms within three to five minutes: Poliomyelitis viruses, Tubercle Bacillus, Fungi, Bacteria and Spores. At recommended dilutions the cost is only 2c per gallon. WESCODYNE eliminates the typical "obnoxious" hospital odor.

### Woodward Medical Personnel Bureau Chicago, Illinois

### Booth No. 53

In Booth No. 53, Mrs. Ann Woodward offers the facilities of the Woodward Medical Personnel Bureau, an organization now in its fifty-ninth year, serving as counsellors in medical personnel problems, hospitals and institutions and public health and welfare organizations. Recommendations can be made of Diplomates of the American Boards, physicians trained in the specialties, Administrators, Public Health specialists, Executive, Supervising and Industrial Nurses, Medical and X-ray Technologists, Therapists, Scientists, Medical Librarians, Social Workers, and other professional and auxiliary personnel. Professional personnel professionally selected. A service international in scope.

### Zimmer Manufacturing Company Toledo, Ohio

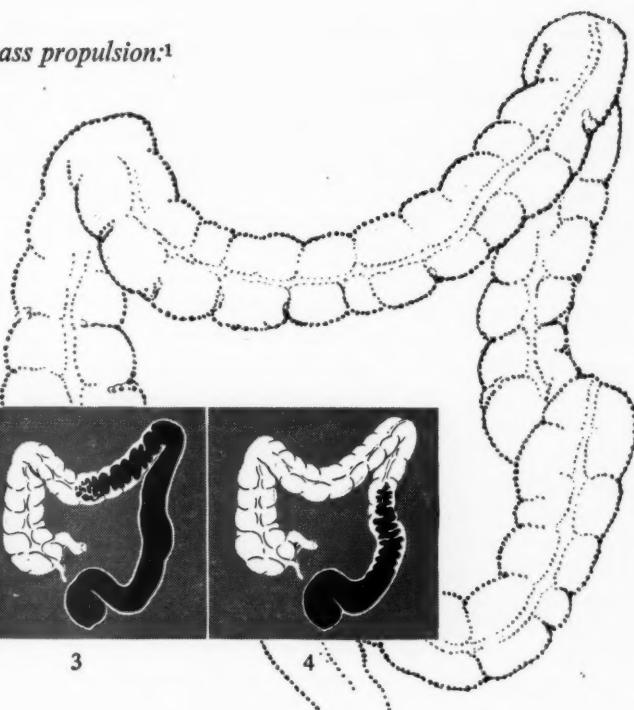
### Booth No. 27

Mr. C. A. Fisher, your Zimmer Distributor, extends a most cordial invitation to the members of the Michigan State Medical Society to visit his exhibit at Booth No. 27. A complete line of Orthopedic Instruments and Fracture Equipment will be on display. Items of special interest, BADGLEY NAIL, TITANIUM and ZIMALOY implants, TOWNLEY CUP STEM PROSTHESIS, SCHNEIDER SELF-BROACHING INTRAMEDULLARY PINS, "UNDERWRITERS APPROVED" EXPLOSION PROOF LUCK BONE SAW and BROWN-ELECTRO DERMATONE. ZIMMER, your guarantee of quality and prompt service.

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### *Roentgenographic pattern of colon mass propulsion:<sup>1</sup>*

- (1) Ascending colon filled.
- (2) Unsegmented mass propelled through transverse colon.
- (3) Propulsive force follows mass through descending colon.
- (4) Pelvic colon reservoir filled.



## Reestablishing Bowel Reflexes with Metamucil®

*Nervous fatigue, tension, injudicious diet, failure to establish regularity, too little exercise, excessive use of cathartics—all factors which contribute to constipation.<sup>2</sup>*

Sufficient bulk and sufficient fluid form the basic rationale of treatment of constipation. Metamucil (the muciloid of *Plantago ovata*) produces a bland, smooth bulk when mixed with the intestinal contents. This bulk, through its mass alone, stimulates the peristaltic reflex and thus initiates the desire to evacuate, even in patients in whom postoperative hesitancy exists.

Correction of constipation logically, therefore, lies in the suitable adjustment of such factors as nervous fatigue and tension, improper intake of fluid, improper dietary habits, failure to respond to the call to stool, lack of physical exercise and abuse of the intestinal tract through excessive use of laxatives.<sup>2</sup>

The characteristics of Metamucil permit the correction of most of these factors: it provides bulk; it demands adequate intake of fluids (one glass with Metamucil powder, one glass after each dose); it increases the physiologic demand to evacuate; and

it does not establish a laxative "habit." Metamucil, in addition, is inert, and also nonirritating and non-allergenic.

The average adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, followed by an additional glass of fluid if indicated.

Metamucil is the highly refined muciloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is supplied in containers of one pound—also four ounces and eight ounces. G. D. Searle & Co., Research in the Service of Medicine.

1. Best, C. H., and Taylor, N.B.: *The Physiological Basis of Medical Practice: A Text in Applied Physiology*, ed. 5, Baltimore, The Williams & Wilkins Company, 1950, pp. 579-583.

2. Bargen, J. A.: *A Method of Improving Function of the Bowel*, *Gastroenterology* 13:275 (Oct.) 1949.

SEARLE

# Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

## RHEUMATIC FEVER PREVENTION PROGRAM

Effective January 1, 1956, the Michigan Crippled Children Commission and the Michigan Department of Health undertook a program of prophylaxis for the prevention of streptococcal infections and rheumatic recurrences in rheumatic patients.

Continuous year-around administration of sulfonamide, oral penicillin or benzathine penicillin G is recommended by the Council on Rheumatic Fever of the American Heart Association for all patients who have had one or more attacks of rheumatic fever or who show clinical evidence of rheumatic heart disease. Of the three methods of drug therapy, the monthly intramuscular administration of benzathine penicillin G is considered to have advantages in that intramuscular injection guarantees that the patient is actually receiving the medication; it tends to maintain a more stable blood-level of penicillin and it requires a monthly visit to the doctor's office thereby affording an opportunity for closer supervision and better follow-up.

In the light of these facts, the Michigan Department of Health, with the concurrence of the Rheumatic Fever Control Committee of the Michigan State Medical Society, on January 1, began distributing to physicians of Michigan benzathine penicillin G for administration at monthly intervals to patients who have had one or more attacks of rheumatic fever or who show evidence of rheumatic heart disease. The drug will be packaged in sets of four disposable syringes (a four-month supply) in two dosages: 600,000 units for small children and 1,200,000 units for larger children and adults. Distribution will be through the regular channels already being used for biologics distributed by the Michigan Department of Health.

The physician will certify to the diagnosis on a form (Form C 62A) supplied by the Michigan Department of Health before obtaining a supply of the drug and make a progress report at four-month intervals when he obtains additional benzathine penicillin G. The progress report will indicate the date of each injection; whether or not a recurrence has occurred; and the extent and duration of discomfort at the site of injection.

If there is doubt as to the correct diagnosis, it is recommended that the patient be referred to a consultant, or that the diagnostic and consultation facilities of the several MSMS Rheumatic Fever Centers or the facilities of the large metropolitan hospitals be used to confirm or deny the presence of the rheumatic state.

It is recommended that throat cultures for Group A Beta Hemolytic Streptococcus be taken before the first injection is given and that if the culture is returned positive, the culture be repeated at intervals until negative.

It is also recommended that patients always be warned ahead of time of the possibility or even probability of

pain in the injected area for one or more days following the injection.

The Michigan Crippled Children Commission, through the use of trust funds, will provide payment for the administration of the benzathine penicillin G to any child (under twenty-one years) with a history of previous attacks of rheumatic fever or who shows evidence of rheumatic heart disease who now has, or has had a crippled or afflicted children's court order. Details of procedures to be followed may be secured from any representative of the Commission.

## EXAMINATION FOR ENTEROPATHOGENIC E. COLI

Procedures for the isolation and identification of Enteropathogenic strains of *E. coli* are now available in the Diagnostic Laboratories of the Michigan Department of Health. Specimens from cases of diarrhea in infants and children suspected of infection with these organisms may be submitted to the Laboratories in Lansing, Grand Rapids, Houghton, or Powers. The blank accompanying the specimen should indicate that examination for Enteropathogenic *E. coli* is desired. Standard containers for feces specimens may be used for the submission of specimens.

## CONFERENCE ON THE CHILD AND THE HOSPITAL

A Conference on the Child and the Hospital will be sponsored by the Michigan Department of Health and the University of Michigan School of Nursing at the Rackham Building, Ann Arbor, April 24 and 25, 1956.

The objectives of the Conference are:

1. To understand better the feelings of the child and his family in the hospital.
2. To improve the atmosphere or emotional environment of care of the hospitalized child.
3. To improve the care of the child in the hospital.

Applications will be accepted from hospital administrators, directors of nursing, pediatric supervisors and head nurses, pediatric instructors and public health nursing supervisors, up to a limit of 125.

Applications may be made to the Maternal and Child Health Section, Michigan Department of Health, Lansing 4, Michigan.

An unexplained mediastinal density on x-ray examination should be viewed with a high degree of suspicion.

\* \* \*

Wilms' tumors account for about 20 per cent of all malignant diseases in childhood.

\* \* \*

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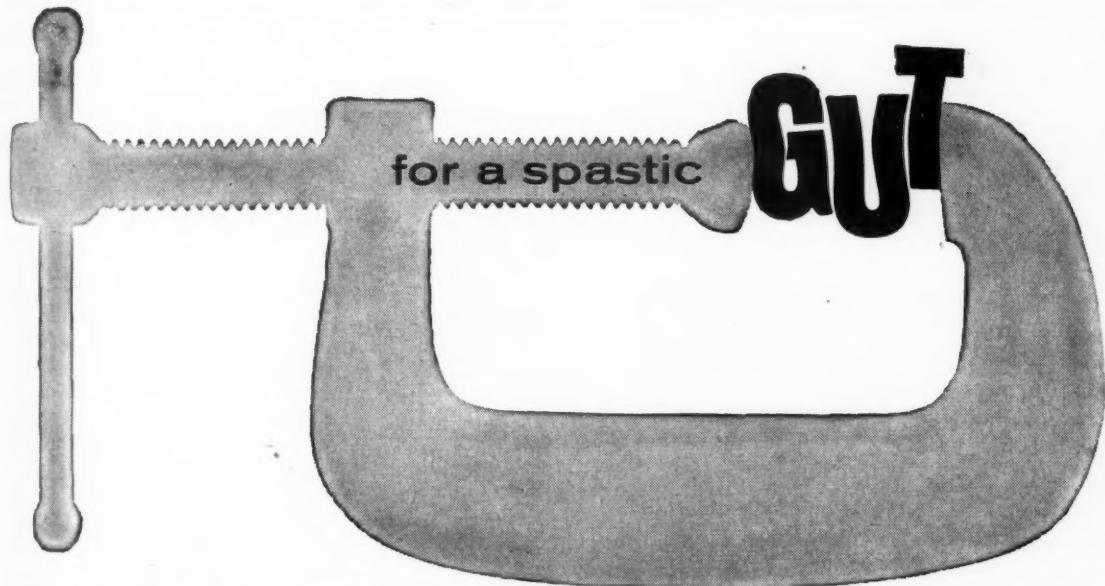


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FEBRUARY, 1956

Say you saw it in the *Journal of the Michigan State Medical Society*

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## NEWS MEDICAL

### MICHIGAN AUTHORS

**Willard D. Mayer, M.D., and Max R. Beitman, M.D.**, Detroit, are the authors of an article entitled "Trichiniasis," published in *THE JOURNAL of the Michigan State Medical Society*, June, 1954, a condensation of which appears in *American Practitioner and Digest of Treatment*, December, 1955.

**William S. Reveno, M.D., Lawrence Reynolds, M.D., and Forest D. Dodrill, M.D.**, Detroit, are the authors of an article entitled "Occlusion of Both Innominate Veins, Restoration of Blood Flow by Arterial Graft," published in *The Journal of the American Medical Association*, November 19, 1955.

**James A. Devlin, M.D., B. Ch., M.S., Harold E. Bowman, M.D., C. Leslie Mitchell, M.D.**, Detroit, are the authors of an article entitled "Non-Osteogenic Fibroma of Bone," published in the *Journal of Bone and Joint Surgery*, June, 1955, and condensed in the *American Practitioner and Digest of Treatment*, November, 1955.

**W. H. Steffensen, M.D.**, Grand Rapids, is the author of an article entitled "The Technic of Administration of a Local Anesthetic for Repair of Cleft Lip in Infants," published in the *Journal of the International College of Surgeons*, October, 1955.

An editorial entitled "Titles and Definitions" which was published in *THE JOURNAL of the Michigan State Medical Society*, July, 1955, has been reprinted in the *Delaware State Medical Journal*, October, 1955.

**A. D. Ruedemann, M.D.**, Detroit, is the author of an article entitled "Glandular Type Exophthalmos," published in the *Digest of Ophthalmology and Otolaryngology*, November, 1955.

**John N. Wolfe, M.D., James E. Lofstrom, M.D., and Samuel L. Balofsky, M.D.**, Detroit, are the authors of an article entitled "Radiation Therapy of Carcinoma of the Cervix, Some Aspects of Cobalt 60 Teletherapy," published in *Wayne University College of Medicine Bulletin*, Volume 2, Number 3.

**O. A. Brines, M.D.**, Detroit, is the author of an article entitled "History of Receiving Hospital," published in *Wayne University College of Medicine Bulletin*, Volume 2, Number 3.

**Louis W. Lewis, M.D.**, Ann Arbor, is the author of an article entitled "Evaluation of Sympathetic Activity following Chemical or Surgical Sympathectomy," presented before the Twenty-Ninth Congress of Anesthetists in Los Angeles, California, October, 1954, and published in *Current Researches in Anesthesia and Analgesia*, November-December, 1955.

**E. S. Gurjian, M.D., F.A.C.S., J. E. Webster, M.D., F.A.C.S., and H. R. Lissner, Detroit**, are the authors of an article entitled "Observations on the Mechanism

of Brain Concussion, Contusion, and Laceration," published in *Surgery, Gynecology and Obstetrics*, December, 1955.

**Gerald P. Hodge, B.F.A.**, Ann Arbor, is the author of an article entitled "The Profession of Medical Illustration," published in the *University of Michigan Medical Bulletin*, October, 1955.

**Mary Lou Cummings**, Ann Arbor, is the author of an article entitled "The Development of Medical Art," published in the *University of Michigan Medical Bulletin*, October, 1955. Miss Cummings is the daughter of Howard H. Cummings, M.D., Past President of the Michigan State Medical Society.

**William S. McNary**, Detroit, is the author of an article entitled "Don't Fence the Community Out," published in *Hospitals*, December, 1955. This article was presented to the Mid-West Hospital Association meeting in Kansas City, April, 1955.

**J. Edward Berk, M.D., Sc.D.**, Detroit, is the author of an article entitled "Medical Aspects of Noncalculous Gallbladder Disease," read as part of the Panel Discussion on "Twenty-five Years' Observation of the Gallbladder Controversy," before the First Annual Convention of the American College of Gastroenterology, Washington, D. C., October, 1954, and published in the *American Journal of Gastroenterology*, November, 1955.

**Lawrence Reynolds, M.D., and Harold Fulton, M.D.**, Detroit, are the authors of an article entitled "Oral Cholecystography with Iopanoic Acid (Telepaque)," read before the Section on Radiology at the 104th Annual Meeting of the American Medical Association, Atlantic City, June, 1955, and published in *The Journal of the American Medical Association*, December 3, 1955.

**Hermann Pinkus, M.D.**, Monroe, is the author of an article entitled "Paul Ehrlich and His Impact on Dermatology," published in the *AMA Archives of Dermatology*, August, 1955.

**C. Howard Ross, M.D.**, Ann Arbor, is the author of an article entitled "Infant Care and Feeding," published in *The Journal of the Student AMA*, December, 1955.

**Kenneth B. Babcock, M.D.**, now of Chicago, formerly of Detroit, is the author of an article entitled "The Joint Commission on Accreditation of Hospitals," published in *The Journal of the Student AMA*, December, 1955.

**Harold E. Bowman, M.D., Grand Rapids, and Hermann Pinkus, M.D.**, Detroit, are the authors of an article entitled "Keratoacanthoma (Molluscum Sebaceum)," published in *AMA Archives of Pathology*, July, 1955.

**Hermann Pinkus, M.D.**, Detroit, is the author of an article entitled "Anatomy of the Skin 1953," published in the *International Journal of Dermatology*, Volume 110, Number 1 (1955).

## NEWS MEDICAL

Richard J. Ferrara, M.D., Detroit, and Hermann Pinkus, M.D., Monroe, are the authors of an article entitled "Alseroxylon in the Treatment of Pruritic and Psychogenic Dermatoses," published in *AMA Archives of Dermatology*, July, 1955.

Coleman Mopper, M.D., Hermann Pinkus, M.D., and Peter Lacobell, M.D., Detroit, are the authors of an article entitled "Multiple Sweat Gland Abscesses of Infants" published in *AMA Archives of Dermatology*, February, 1955.

G. C. Brown, Ann Arbor, is the author of an article entitled "Virus Excretion and Antibody Response in Clinical and Subclinical Cases of Poliomyelitis," published in *Annals of the New York Academy of Sciences*, September 27, 1955.

T. Francis, Jr., M.D., Ann Arbor, is the author of an article entitled "Summary and Review of Poliomyelitis Immunization," published in *Annals of the New York Academy of Sciences*, September 27, 1955.

Edward F. Sladek, M.D., Traverse City, is the original author of an article which appeared in *American Journal of Surgery*, November, 1955. Dr. Sladek reports on a series of 300 infants between the ages of three days and twelve years, who were treated surgically for anal fissure.

\* \* \*

Research on heart disease relative to its cause and prevention should be undertaken on international lines under the auspices of the World Health Organization (WHO) according to recommendations made by the WHO Study Group on Atherosclerosis which met in November in Geneva, under the chairmanship of Herman Hilleboe, M.D., New York State Commissioner of Health, "because of its paramount importance as a public health problem."

The most clearly recognized types of ischemic heart disease are myocardial infarction due to coronary obstruction (angina pectoris).

There is as yet no clear or scientific evidence to show that any particular factor causes this disease or contributes to its development. Quite a number of factors are probably at work simultaneously.

Striking and challenging differences are observed from one country to another. In the USA, UK and Sweden, many more men than women die from ischemic heart disease between the ages of forty and sixty, but, in the Netherlands, female mortality is higher.

Populations on low fat diets appear to suffer a relatively low incidence of atherosclerosis and ischemic heart disease. In Europe, during the war, the reduction of fat consumption was paralleled by a lowering of mortality from heart disease.

Occupation and social status may also be factors; professional and business men suffer from ischemic heart disease more frequently and more severely than people in more active jobs.

\* \* \*

The University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology was held at Miami Beach, Florida, from January 16 to 21, 1956. A. D. Ruedemann, M.D., Detroit, took an active part, present-

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## NEWS MEDICAL

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ing three papers: (1) "Glandular Exophthalmos Differential Diagnosis and Treatment," (2) "The Cosmetic End Result of Enucleation with and without the Use of the Implant," and (3) "The Use of Irradiation Therapy in Ophthalmology with Special Reference to Gamma in Treatment of Cancer of the Lids and Beta in Treatment of Corneal Lesions."

\* \* \*

The Bulletin of the Sarasota County Medical Society, Sarasota, Florida, for November, 1955, recently received, is a beautifully executed 64-page volume covered with a heavy glossy paper, devoted primarily to the new 147-bed Sarasota County hospital, which has five floors, is built of welded steel, cast cement and is completely air-conditioned. There are thirty-one half-page pictures and one two-page center spread.

A page each is devoted to reproductions of letters from the Governor, the AMA General Secretary, the Florida Medical Association, and each U. S. Senator from Florida.

Don Laurent, the administrator, who is from Cadillac, Michigan, gets two half pages. He received training at Wexford County Normal and at Michigan State. Graduation brought a BS degree in medical biology and he accepted a job with the Michigan State Health Department, where he developed a method for simple pasteurization of milk. He was a Fellow of the Commonwealth Foundation of Massachusetts, and returned to Michigan State College for his Ph.D.

\* \* \*

**Medical Horizons.**—In co-operation with the American Medical Association, Ciba Pharmaceutical Products, Inc., is producing a series of television programs. The outlet in Michigan is WXYZ-TV at 9:30 P.M. The program for December 12, 1955, was from the Kresge Medical Research Building at the Institute of Industrial Health, University of Michigan, Ann Arbor, was devoted to medical problems related to industry—the Effect of Noise on Hearing. Shown were the effects of various industrial noises on different individuals over a period of years and how to avoid them. Tests were explained which are now being developed to channel people into occupations compatible with their hearing.

The December 19 program was from New York Hospital, Cornell Medical Center, and dealt with Four Functions of the Hospital Nurse.

The December 26 program was from the Willard Parker Hospital, Bellevue Medical Center, concerning the Fight Against Communicable Disease.

Liver Disease, and the Function of Infectious Hepatitis was the program at Jersey City Medical Center, January 2, 1956.

The January 9 program from the University of Colorado School of Medicine, Denver, concerned The Emotional Makeup of the Individual prone to Automobile Accidents.

\* \* \*

The Frederick A. Coller Surgical Society held its first clinical conference October 27, 28, 29, 1955, in Ann Arbor. An outstanding program was presented, featuring the newest research in surgery. Cocktails, dinner, recep-



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tion, lunch, brunch and the Michigan-Iowa homecoming game occupied three days.

Officers are: President—Allen Boyden, M.D.; Secretary-Treasurer—Thurston Thieme; Three-year Councillors—Robert Patton, M.D., Kenneth Maclean, M.D., Donald Cooper, M.D.; Two-year Councillors—John Wellman, M.D., Clifford Keane, M.D., Richard Lillie, M.D.; One-year Councillors—Darrell Campbell, M.D., Chester McVay, M.D.

Announcement has been made of the nomination of Dr. Coller as an Honorary Fellow of the Royal College of Surgeons of England, an honor which is held by only some fifty people throughout the world. The embossed scroll commemorating the award was presented to Dr. Coller during the recent meeting of the American College of Surgeons in Chicago.

\* \* \*

The Gill Memorial Eye, Ear and Throat Hospital at Roanoke, Virginia, announces the 29th Annual Institute or Conference to be held April 2 to 7, 1956. Two Michigan men are listed on the faculty: Jack S. Guyton, M.D., Detroit, and John E. Magielski, M.D., Ann Arbor.

Quite a number of Michigan men have appeared on previous programs: Ferris Smith, M.D., Grand Rapids; A. C. Furstenberg, M.D., Ann Arbor; Clair S. Straith, M.D., Detroit; J. H. Maxwell, M.D., Ann Arbor, who has appeared twice; A. D. Ruedemann, M.D., Detroit, who has appeared five times; Bruce Fralick, M.D., Ann Arbor; Harold F. Falls, M.D., Ann Arbor, appearing twice; Russell N. DeLong, M.D., Ann Arbor; Jerome

W. Conn, M.D., Ann Arbor; H. Saul Samuel Sugar, M.D., Detroit; Richard Schneider, M.D., Ann Arbor; and John Sheldon, M.D., Ann Arbor.

\* \* \*

The Michigan Academy of General Practice will hold its third Symposium on Office Procedures at the Pantlind Hotel, Grand Rapids, April 4, 1956. Guest speakers will cover both diagnostic and therapeutic procedures usable in the office. Five category L credit hours will be granted. Three forty-five minute papers begin at 10 a.m. followed by panel discussion. Complimentary luncheon. Two forty-five-minute papers in the afternoon, also followed by panel discussion. Cocktail reception and hot hors d'oeuvres. Lederle Laboratories co-sponsor.

\* \* \*

The Bulletin of the Los Angeles County Medical Association for December, 1955, carries an article with several illustrations of the honor bestowed on the Los Angeles County Medical Society by the Michigan State Medical Society for pioneering in the medical television field with the great TV show, "Medic." Mr. Hugh W. Brenneman, public relations counsel of the Michigan State Medical Society, presented a plaque to Dr. Ewing L. Turner, LACMA President, who accepted on behalf of the Association.

The plaque cited the LACMA for its sponsorship of and technical assistance in the highly successful television show and commended the Association for "outstanding service to both the American public and the medical profession."

## NEWS MEDICAL

The Editorial entitled "Psychiatrists are M.D.'s Too," prepared by the Committee on Mental Health of the Michigan State Medical Society, and recently published in our JOURNAL, is republished in the *West Virginia Medical Journal*, December, 1955.

\* \* \*

**Rheumatic Fever Recurrence.**—A program for prevention of recurrence of rheumatic fever has been worked out by the Rheumatic Fever Control Committee of the Michigan State Medical Society, the State Department of Health and the Crippled Children's Commission, and approved by the Council of the Michigan State Medical Society. Following are their announcements:

Your Rheumatic Fever Control Committee and Michigan State Medical Society Council have concurred in recommending rheumatic fever prophylaxis using benzathine penicillin G. (Bicillin) as a preferred measure. The Michigan Department of Health and the Michigan Crippled Children Commission are implementing this program, the former making available the benzathine penicillin G, and the latter making payment to the physician for the administration of the drug in the physician's office for children under twenty-one years with a history of previous attacks of rheumatic fever or evidence of rheumatic heart disease who have or have had a Crippled or Afflicted Children's Court Order.

The Michigan Crippled Children Commission will contact the physician of record in its office to ascertain the physician's desire to institute prophylaxis with monthly injections of benzathine penicillin G, and if he so

desires the patient's family will be contacted. When the family has indicated its willingness to carry out the prophylactic treatment the family physician may obtain the medication from the local health department and submit his statement for professional services in its administration to the Michigan Crippled Children Commission on forms which will be provided.

The program becomes effective January 16, 1956, and the local health departments are expected to be stocked with benzathine penicillin G by the time the physician and patient's family have indicated their views in the matter. The Michigan Crippled Children Commission files are being reviewed county by county and physicians will not be contacted simultaneously. The program will not initially apply in counties in which a program of prophylaxis is already in progress as another project.

Should any physician desire to institute prophylaxis under the above program for patients who have had a Michigan Crippled Children Commission Court Order since January 1, 1954, he may write the Medical Coordinator, Rheumatic Fever Program, Michigan Crippled Children Commission, 252 Hollister Building, Lansing 4, Michigan, for authorization in advance of his being notified by the Commission. The patient's name, diagnosis, name of parents, the county of residence, and assurance that the parents of the child will co-operate should be stated in the letter so that prompt reply can be made.

\* \* \*

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than 100 colleges and universities as part of its annual program for the improvement of teaching in support of scientific studies. The funds are to be used largely for teaching fellowships, and particularly for students who have completed two years of part-time teaching.

\* \* \*

The American Congress of Physical Medicine and Rehabilitation will hold its thirty-fourth annual scientific and clinical session September 9-14, 1956, inclusive, at The Ambassador, Atlantic City, N. J.

Scientific and clinical sessions will be given September 10, 11, 12, 13, and 14. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, annual instruction seminars will be held. Full information may be obtained by writing to the executive secretary.

To stimulate interest in the field of physical medicine and rehabilitation, the American Congress of Physical Medicine and Rehabilitation will award annually a prize for an essay on any subject relating to physical medicine and rehabilitation. The contest, while open to anyone, is primarily directed to medical students, interns, residents, graduate students in the pre-clinical sciences and graduate students in physical medicine and rehabilitation.

Manuscripts must be in the office of the American Congress of Physical Medicine and Rehabilitation, 30 N. Michigan Ave., Chicago 2, not later than June 1, 1956.

FEBRUARY, 1956

Say you saw it in the *Journal of the Michigan State Medical Society*

Albert E. Heustis, M.D., Commissioner of the Michigan State Department of Health, in conference with the Executive Committee of the Council, M.S.M.S., December 14, 1956, reported that 90 per cent of the children eligible for the first rounds of Salk polio vaccine had received at least one shot. Of these, only seven developed paralytic polio even though they had only one shot. Of the 10 per cent who did not have any shot, twenty developed paralyzing polio—a very certain commentary on its effectiveness.

The Department has received and distributed about 5,450,000 doses and needs about 8 million altogether for the program.

Dr. Heustis cautioned that some of the material may soon reach the expiration date. Before that time, the supplies should be returned for replacement in order to have no wastage. The supplies thus recovered can still be used immediately instead of standing on the doctors' shelves. If any of our doctors have supplies, they are requested to check them to avoid wastage.

\* \* \*

The Ford Foundation, December 16, 1955, made the most astounding announcement in news circles for years. A grant of half a billion dollars for improving medical training and hospital services was the biggest gift in the history of philanthropy. Colleges and universities were given \$210,000,000. Three thousand, five hundred privately operated hospitals will divide \$200,000,000. The sum of \$90,000,000 is going to privately owned medical

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schools. The money will be given according to certain formula, and over a short period of time. The Ford Foundation owns a large block of the stock of the Ford Motor Company, and while using monies available, is selling some of its stock. The Foundation for years has made grants for various purposes but never before in the field of medicine.

The American Medical Association, for several years, has sponsored gifts from alumni and friends to the eighty-one approved medical schools to help them during financial stringency. Over five millions of dollars have thus come to the medical schools, but the need has been estimated at about ten million a year. Our private individual attempts have been far short of needs. This gift should help its recipients no end.

The Ford Foundation has also made grants totalling \$6,500,000 in support of educational television. The largest of three grants was \$6,263,340 for educational television; \$90,500 went to the television and radio center at Ann Arbor, Michigan; \$140,000 went to the council which has headquarters in Washington, D. C., for operating expenses in 1956.

\* \* \*

The following members of the Michigan State Medical Society were granted Fellowship and Associate Fellowship certificates in postgraduate medical education during the year:

**Fellowship.**—Walter F. Bach, M.D., Dearborn; Lawrence A. Berg, M.D., Sturgis; Sidney E. Chapin, M.D.,

Dearborn; Henry E. Cope, M.D., Lansing; John D. DeMay, M.D., Jackson; Paul L. DeWaele, M.D., Bay City; Roscoe J. Fortner, M.D., Three Rivers; Lawrence E. Grate, Charlevoix; Robert M. Griffith, M.D., Muskegon; Cyril F. Hanft, M.D., Springport; James W. Hawkins, M.D., Detroit; William B. Kerr, M.D., Saginaw; James M. LaBerge, M.D., Wyandotte; Jackson E. Livesay, M.D., Flint; Dwight J. Mosier, M.D., Bay City; Edward L. Robb, M.D., Detroit; William A. Sautter, M.D., Horton; Laurence F. Segar, M.D., Detroit; Eugene M. Shafarman, M.D., Detroit; Charles J. Socall, M.D., Detroit 11; Ethon L. Stone, M.D., Jackson; Homer H. Stryker, M.D., Kalamazoo; Ross V. Taylor, M.D., Jackson; Frederick I. Van Wagnen, M.D., Jackson; William H. Wacek, M.D., Ironwood; Darwin E. Wagoner, M.D., Lincoln; James W. Wilcox, M.D., Bay City.

**Associate Fellowship.**—Arnold O. Abraham, M.D., Hudson; Francis C. Anderson, M.D., Escanaba; Hal G. Aulie, M.D., Royal Oak; George E. R. Anthony, M.D., Flint; Clarence L. Becklein, M.D., Detroit; Alexander W. Blain, III, M.D., Detroit; Park S. Bradshaw, M.D., Muskegon; Herman R. Brukardt, M.D., Menominee; Harry J. Burkholder, M.D., Alpena; James G. Christopher, M.D., Detroit; Mario S. Cioffari, M.D., Detroit 35; Claire H. Clausen, M.D., Sault Ste. Marie; John F. Cotant, M.D., Detroit; Edward F. Crippen, M.D., Mancelona; Harry M. Dickman, M.D., Hudson; Gerald A. Drake, M.D., Petoskey; Stanley C.

Fenton, M.D., Detroit; Glendon B. Goddard, M.D., Pickford; Herbert W. Harris, M.D., Lansing; Mildred L. Herkner, M.D., Traverse City; Donald C. Howe, Jr., M.D., Sault Ste. Marie; LeRoy W. Hull, M.D., Detroit; Morris Kazdan, M.D., Detroit; Victor E. Lepisto, M.D., Laurium; Alton B. Marsh, M.D., Detroit; Edgar W. Moreland, M.D., Milan; Archie S. Narotzky, M.D., Ishpeming; Emil F. Rupprecht, M.D., Detroit 4; Leland L. Swenson, M.D., Muskegon; Karl L. Swift, M.D., Detroit 2; Henry A. Tressel, M.D., Wakefield; William C. Van Gelder, M.D., Muskegon; Roger V. Walker, M.D., Detroit; John E. Webster, M.D., Detroit 26; Warren G. White, Jr., M.D., Muskegon; Henry J. Winkler, M.D., L'Anse; Winston R. Wreggit, M.D., Detroit; Arthur R. Young, M.D., Pontiac.

\* \* \*

The Michael Reese Hospital offers a course in Electrocardiographic Interpretation for graduate physicians. The course will be given at the Michael Reese Hospital, Chicago, by Louis N. Katz, M.D., Director of the Cardiovascular Department, Medical Research Institute, on Wednesdays from 7:00 to 9:00 p.m. for twelve weeks, beginning February 8. For information, write Mrs. Ana Rose, Administrative Secretary, Cardiovascular Department, Michael Reese Hospital, Chicago 16, Illinois.

\* \* \*

The American Academy of Neurology offers a course for general practitioners in Common Neurological Disorders, St. Louis, Missouri, to be given April 25, 1956. In addition, the Academy presents advance one-day courses on neuropathology, infectious diseases in neurology, neurophysiology, neurochemistry, clinical electroencephalography and electromyography, convulsive disorders, neurologic disorders of infancy and childhood, injuries to the nervous system and current advances in neurology.

The course for general practitioners has received recognition by the American Academy of General Practice and members participating will gain six hours' credit in Category II.

For information, write Mrs. J. C. McKinley, Executive Secretary, 3501 E. 54th Street, Minneapolis 17, Minn.

\* \* \*

The American College of Allergists announces its Twelfth Annual Meeting and Graduate Instructional Course for the Hotel New Yorker, New York City. The Graduate Instructional Course is scheduled for April 15-16-17, 1956, and the Annual Meeting for April 18-19-20, 1956.

\* \* \*

The Tenth Inter-American Congress of the Pan-American Medical Association will be held in Mexico City, April 15-21, 1957. Four days will be devoted to scientific sessions, beginning at 9 a.m., and three days in sightseeing, with visits to Cuernavaca, Taxco and Acapulco. Monday and Tuesday of the following week, medical meetings will be held in Guatemala City. For information, write the Executive Director, Dr. Joseph J. Eller, 745 Fifth Avenue, New York City.

FEBRUARY, 1956

Say you saw it in the *Journal of the Michigan State Medical Society*

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control of  
salt retention  
edema

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**SUPPLIED:** As orange tablets, in bottles of 100 and 1000. Also available—

**CUMERTILIN** Sodium Injection, 1- and 2-cc. ampuls, in boxes of 12, 25, and 100; and 10-cc. vials, individually and in boxes of 10 and 100.

<sup>1</sup> Pollock, B. E., and Pruitt, F. W.: *Am. J. M. Sc.*, 226:172, 1953.

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## NEWS MEDICAL

The American Goiter Association will hold its 1956 meeting at the Drake Hotel, Chicago, Illinois, May 3-4-5, 1956. The three-day program will consist of papers and discussions dealing with physiology and diseases of the thyroid gland.

For information, write John C. McClintock, M.D., Secretary, 149½ Washington Ave., Albany, N. Y.

Joseph M. Grace, M.D., Detroit, and David R. Limbach, M.D., Flint, have been elected Fellows in the American College of Radiology.

Congratulations, Doctors Grace and Limbach!

Ralph Najarian has been appointed Schering Advertising Manager. Many Michigan doctors who remember Ralph Najarian as a Detroit pharmacist and long-time representative and exhibitor from the Schering Corporation will be happy to hear the news of his rise to eminence.

Congratulations, Ralph!

The Hawaii Medical Association cordially invites you to attend its Centennial Celebration and Scientific Congress, April 2-29, 1956. In addition to scientific sessions, a pageant depicting the colorful history of medicine in the Island, a luau (Hawaiian feast), and other events, with plenty of free time for sightseeing and relaxation are planned.

For information and reservations, write Hawaii Medical Association, 510 South Beretania St., Honolulu 13, Hawaii.

The Upjohn Company, of Kalamazoo, publishes the first newspaper of its kind for physicians and their associations. *Scope*, a weekly publication, is designed to bring to physicians current news and information of medicine and related sciences.

For subscription, write Physicians News Service, Inc., 130 E. 59th Street, New York 22, N. Y.

The University of Michigan Medical Center will be featured on the national television show, "Medical Horizons," Monday, December 12. The University of Michigan show will emphasize research in industrial medicine. Host will be O. T. Mallery, Jr., M.D., Ann Arbor, Director of the University Institute of Industrial Health. Also participating will be: Dean A. C. Furstenberg, M.D., Merle Lawrence, M.D., Walter Block, M.D. and Richard Black, M.D., all of the Medical School faculty, and Mr. Warren Cook of the School of Public Health.

"Medical Horizons," which is sponsored by Ciba Pharmaceutical Products, is scheduled for 9:30 EST, over the ABC Network, Detroit Station WXYZ-TV, Channel 7.

Congratulations to Parke, Davis & Company on their clever advertisement entitled "Is There One Question You're Too Shy To Ask Your Doctor?"—one of the cleverest and most eye-appealing advertisements ever written in behalf of the medical profession. The ad appeared in the December 10 issue of the *Saturday Evening Post*.

## IF YOUR PATIENT WANTS TO DRINK THAT'S HIS BUSINESS IF HE WANTS TO QUIT that's our BUSINESS

BRIGHTON HOSPITAL, now in operation for over 2 years, wishes to thank the physicians of Michigan and Ontario for the good reception and the confidence given to us.

We know that today's physician recognizes the many-sided nature of the disease—Alcoholism. Beyond the physical, which requires expert treatment in itself, the alcoholic's physician is plagued, we know, with the equally vital aspects, which make demands on his time and attention, of the emotional, spiritual and mental sickness he notes in his patient.

We believe that Brighton Hospital offers the answer. Physicians can now send their alcoholic patients to Brighton with the certain assurance that they will find expert medical

and nursing attention AND that, if they so desire, patients will be thoroughly indoctrinated with the program of Alcoholics Anonymous.

BRIGHTON HOSPITAL is NOT interested in the patient who merely wishes to be dried out in order to resume drinking. We ARE interested in those patients who really, fervently, seek complete rehabilitation and a way of life FREED from alcohol.

BRIGHTON HOSPITAL is owned and operated by MICHIGAN ALCOHOLIC REHABILITATION FOUNDATION, a non-profit organization devoted to the best possible hospitalization of the alcoholic who seeks to stop drinking.

DOCTORS, we are here to serve you. We are here to serve your patients.

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James E. Lofstrom, M.D., Detroit, was recently elected as First Vice President of the Radiological Society of North America.

Congratulations, Dr. Lofstrom!

\* \* \*

Many Michigan physicians will be among the employers coming under the provisions of the extended Michigan Employment Security Act. The Act has been expanded to include all employers who have as many as four employees on their payrolls during any 20 calendar weeks of the year. The effective date is January 1, 1956.

Explanatory letter may be obtained from the Michigan Employment Security Commission, 7310 Woodward Ave., Detroit 2.

\* \* \*

The Michigan Diabetes Association will hold meetings coincident with the Michigan Clinical Institute. A luncheon meeting has been scheduled for Thursday, March 8, beginning at 1:00 p.m. in the Sheraton-Cadillac Hotel, Detroit, followed by a panel on diabetes. Participants are: Franklin W. Baske, M.D., Flint; R. B. Leach, M.D., Detroit; Richard M. McKean, M.D., Detroit and W. S. Reveno, M.D., Detroit.

For details, write Sidney Adler, M.D., 872 Fisher Bldg., Detroit.

\* \* \*

**More Doctors**—There has been an erroneous public impression in some areas that the organized medical

profession has maintained an indifferent or hostile attitude toward the expansion of medical training facilities.

Whatever condition may exist among some medical spokesmen, it is now clear that the profession in Michigan publicly recognizes the need for additional training facilities and is prepared to go to bat for them. This became evident at the 90th meeting of the Michigan State Medical Society at Grand Rapids.

Appearing before its House of Delegates, the deans of Michigan's two medical schools urgently advocated the early establishment of a third college. The delegates expressed their approval.

"There should be another medical school in Michigan, and I see no reason why this state should not finance and operate another," Dean A. C. Furstenberg of the University of Michigan Medical School told the delegates. Dean Gordon H. Scott of Wayne University Medical School added, "it would take 10 years before its graduates could enter practice, even if the funds for expansion were available tomorrow."

Both deans pointed to the growing need for doctors, which has been highlighted in this state by the Michigan Health Council Placement Service. To date, the Service has helped more than 150 Michigan communities locate M.D.'s.—*Michigan Health Council Bulletin*, December, 1955.

\* \* \*

**The Kent County Medical Society Bulletin** appeared in new garb with the January, 1956, number. The

“Premarin” relieves  
menopausal symptoms with  
virtually no side effects, and  
imparts a highly gratifying  
“sense of well-being.”

“Premarin”®—Conjugated Estrogens (equine)

attractive format includes a two-color cover (green and white) with modernistic design, and the Kent County Medical Society seal imprinted on the table of contents.

Congratulations, KCMS Bulletin!

**Michigan Clinical Institute.** Postgraduate credits are given to every MSMS member who attends the Institute. Notify John M. Sheldon, M.D., Chairman, MSMS Committee on Post-graduate Medical Education, 1313 E. Ann Street, Ann Arbor, Michigan.

Twenty-five former All-American football stars now are doctors of medicine—with two from Michigan—according to JAMA of December 31, 1955.

Clarence W. Spears, M.D., of Ypsilanti, was voted an All-American guard while playing at Dartmouth College (1914-1915).

William R. Cunningham, M.D., now retired and living in Grove City, Pennsylvania, was a University of Michigan center (1898) who gained All-American honors.

\* \* \*

The International College of Surgeons will hold a regional meeting of its American Section in Madison, Wisconsin, April 26-27-28, 1956, with headquarters at the Loraine Hotel. This will be a midwest meeting, with all surgeons residing in this area invited to attend.

Leading surgeons from throughout the United States will appear on the program.

\* \* \*

The Jackson County Cancer Society and the Jackson County Medical Society are sponsoring a cancer-day symposium at the Hotel Hayes in Jackson on April 26, 1956.

In the afternoon a panel discussion of common problems in diagnosis and treatment of cancer will be presented by a group from the University of Michigan: Moderator—Frederick A. Collier, M.D., Professor of Surgery; A. C. Curtis, M.D., Professor of Dermatology and Syphilology; Isadore Lampe, M.D., Professor of Radiology; James H. Maxwell, M.D., Professor of Otolaryngology; Howard H. Cummings, M.D., Professor Emeritus, Post-Graduate Medical School; Reed M. Nesbit, M.D., Professor of Surgery. This will be followed by a question-and-answer period.

The speaker for the evening will be Alton Ochsner, M.D., Professor of Surgery and chairman of the Department of Surgery, Tulane University.

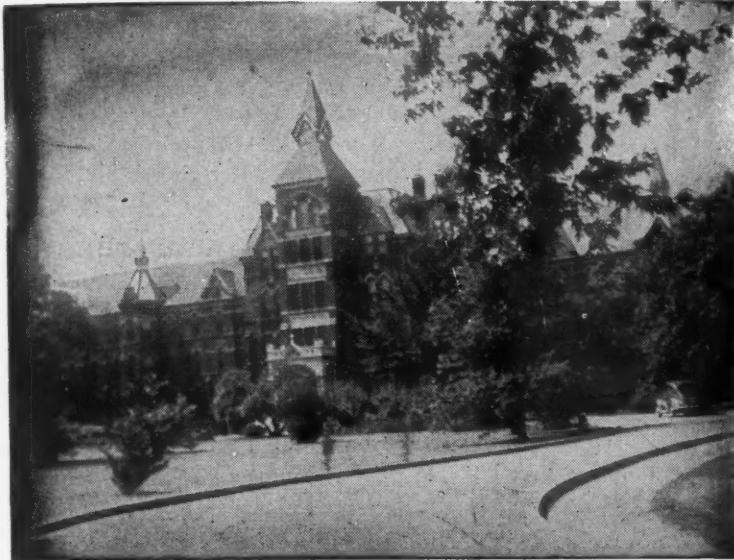
Attendance must be by reservation and the fee for the entire program is \$10.00. For program and information, write R. E. Medlar, M.D., 719 17th Street, Jackson, Michigan.

\* \* \*

The Wayne University College of Medicine Alumni Clinic Day and Reunion will be held on two days, May 8 and 9. The first day's sessions will be held at the Medical School, Detroit Receiving Hospital, the Lafayette Clinic, and the Kresge Eye Institute. This session

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# ST. JOSEPH'S RETREAT



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will include ward rounds in the Detroit Receiving Hospital.

The second day's sessions will be held at the Fort Shelby Hotel where professional papers by guest speakers will be presented.

The Clinic Days will end with the annual reunion banquet at the Fort Shelby Hotel, which will honor the Class of 1906.

\* \* \*

**The Second Annual Nutrition Conference**, sponsored by Wayne University College of Medicine, will be held in the Medical School Auditorium on Friday, April 13, beginning at 2:00 p.m. Speakers on the general subject "Nutrition and the Maintenance of Tissue Structure and Function" will include Albert G. Hogan, M.D., University of Missouri; Bertha S. Burke, M.D., Harvard University, and William J. Darby, M.D., Vanderbilt University. Further information may be obtained by writing the Department of Physiological Chemistry, Wayne University College of Medicine, Detroit 7, Michigan.

\* \* \*

**Leo Spears**, the advertising Denver Chiropractor, lost an \$11,000,000 law suit, according to report in the Denver Post of October 13. Chiropractor Spears' suit had been brought against the Denver area Better Business Bureau, the *Denver Post*, and eighty other defendants (including Colorado State Medical Society) who were charged with conspiracy to damage Spears' Chiropractic Institution.

**Michigan Physicians at AMA Meeting in Boston, December, 1955:** E. R. Addison, M.D., Crystal Falls; Hugh R. Allott, M.D., Sault Ste. Marie; Howard H. Angell, M.D., Kalamazoo; W. W. Babcock, M.D., Detroit; S. A. Beckwith, M.D., Stockbridge; Harry Berman, M.D., Flint; Melvin A. Block, M.D., Detroit; H. C. Bodmer, M.D., Kalamazoo; A. Peter Brachman, M.D., Allegan; William Bromme, M.D., Detroit; Brock E. Brush, M.D., Detroit; J. H. Buck, M.D., Ionia; Duncan Campbell, M.D., Detroit; Joseph Carp, M.D., Detroit; Wm. P. Chester, M.D., Detroit; Wm. T. Davison, M.D., Port Huron; Edw. E. Elder, Jr., M.D., Pontiac; Ira E. Falk, M.D., Detroit; John Ferguson, M.D., Traverse City; Robert C. Fonson, M.D., Detroit; and Alex S. Friedlaender, M.D., Detroit.

Harold H. Gay, M.D., Midland; Robert A. Gerisch, M.D., Detroit; Robert J. Golt, M.D., Ann Arbor; Elizabeth L. Gurden, M.D., Owosso; L. P. Haefele, M.D., Garden City; M. R. Hannum, M.D., Milan; Wilfrid Haughey, M.D., Battle Creek; Donald V. Hobbs, M.D., Detroit; A. E. Humphrey, M.D., Marshall; W. H. Huron, M.D., Iron Mountain; Arnold Jacobs, M.D., Detroit; F. T. Johnson, M.D., Kalamazoo; O. J. Johnson, M.D., Bay City; Wm. S. Jones, M.D., Menominee; Sydney N. Lytle, M.D., Flint; Wm. H. McAlister, M.D., Detroit; Carey P. McCord, M.D., Ann Arbor; Leslie F. McCoy, M.D., Port Huron; and Robert C. Monson, M.D., Detroit.

Harold Niekamp, M.D., Utica; Robert K. Nixon, Jr., M.D., Birmingham; Robert L. Novy, M.D., Detroit;



NEWS MEDICAL

MEDICAL TELEVISION SHOWS  
Produced by Michigan Health Council

| Date-1955   | Station               | Subject                          | Guests                              |
|-------------|-----------------------|----------------------------------|-------------------------------------|
| Nov. 3      | WKAR-TV, East Lansing | Maternal and Child Care          | Fanny Kenyon, M.D., Lansing         |
| Nov. 6      | WJBK-TV, Detroit      | Medical Aspects of Civil Defense | Max L. Licher, M.D., Detroit        |
| Nov. 10     | WKAR-TV, East Lansing | Under the Microscope             | A. Garrard Macleod, M.D., Kalamazoo |
| Nov. 13     | WJBK-TV, Detroit      | Diabetes Detection Week          | Crosby D. Eaton, M.D., Detroit      |
| Nov. 17     | WKAR-TV, East Lansing | Diabetes Control                 | William D. Hayford, M.D., Lansing   |
| Nov. 20     | WJBK-TV, Detroit      | Driving in the City              | A Film                              |
| Nov. 27     | WJBK-TV, Detroit      | Your Eyes                        | Edmond L. Cooper, M.D., Detroit     |
| December 1  | WKAR-TV, East Lansing | Heart of the Home                | Ernest T. Guy, Detroit              |
| December 4  | WJBK-TV, Detroit      | High Blood Pressure              | Robert H. Hamburg, M.D., Detroit    |
| December 8  | WKAR-TV, East Lansing | Stop! . . . Rheumatic Fever!     | A Film                              |
| December 11 | WJBK-TV, Detroit      | Johnny's New World               | A Film                              |
| December 15 | WKAR-TV, East Lansing | Christmas Safety                 | A. E. Heustis, M.D., Lansing        |
| December 18 | WJBK-TV, Detroit      | Holiday Traffic Safety           | Howard Cox, Detroit                 |
| December 22 | WKAR-TV, East Lansing | Holiday Traffic Safety           | Sgt. John Davies, East Lansing      |
| December 25 | WJBK-TV, Detroit      | Stop and Go—The Safety Twins     | A Film                              |
| December 29 | WKAR-TV, East Lansing | The Courts Protect Your Safety   | Judge Marvin Salmon, Lansing        |

Foundations in the United States, numbering 4,162, hold assets of more than \$4,700,000,000 and make annual grants totalling more than \$308,000,000. These foundations are "non-profit legal entities established to serve the welfare of mankind, having a principal fund of its own . . . and governed by its own trustees" according to the American Foundations Information Service.

The bulk of resources is in the hands of relatively few foundations.

A total of \$4,200,000,000 (93 per cent of all foundation assets) is held by fewer than 20 per cent of the

foundations studied. The other 80 per cent have total assets of \$298,798,000, less than the assets of either the Ford Foundation or the Rockefeller Foundation. A total of more than \$1,500,000,000 is held by the seven largest foundations: The Ford Foundation, \$493,213,842; the Rockefeller Foundation, \$447,686,573; Carnegie Corporation of New York, \$178,861,599; W. K. Kellogg Foundation, \$109,812,214; The Duke Endowment, \$109,552,000; The Commonwealth Fund, \$105,993,035, and The Pew Memorial Foundation, \$104,987,129.

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**Gastric Hyperacidity**

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For further information write to:

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### GENESEE COUNTY MEDICAL SOCIETY

Eleventh Annual Cancer Day  
Hurley Hospital, Flint, Michigan  
April 11, 1956

Morning Session—9:30 a.m.

"Cancer of the Uterine Body; Its Diagnosis and Treatment"

NEWELL W. PHILPOTT, M.D., Department of Obstetrics and Gynecology, McGill University, Montreal, Canada

"Problems of Diagnosis and Therapy of Neoplasms Involving the Blood Forming Tissue"

LEON O. JACOBSON, M.D., Professor of Internal Medicine, Argonne Cancer Research Hospital of the University of Chicago, Chicago

"Psychiatric Aid in the Management of Cancer"

ARTHUR M. SUTHERLAND, M.D., Department of Neuro-Psychiatry, Memorial Center, New York

Noon Recess

Luncheon, Lobby Floor Cafeteria—Compliments of Hurley Hospital Board of Managers

Afternoon Session—2:00

"Past Achievements, Present Activities and Future Prospects for Cancer Prevention"

CARL V. WELLER, M.D., Department of Pathology, University of Michigan, Ann Arbor

"Soft Somatic Tissue Sarcomas"

THEODORE R. MILLER, M.D., Department of Surgery, Memorial Center, New York

Panel Discussion:

Moderator: H. MARVIN POLLARD, M.D., Department of Internal Medicine, University of Michigan, Ann Arbor

Members of Panel: DR. PHILPOTT, JACOBSON, SUTHERLAND, WELLER and MILLER

Social Hour 5:30 p.m.

Subscription Dinner 7:00 p.m.

Durant Hotel

\* \* \*

### American Academy of Obstetrics and Gynecology

More than 1,200 of the country's leading obstetricians and gynecologists were in attendance at the three day of scientific sessions at the Fourth Annual Clinical Meeting of the American Academy of Obstetrics and Gynecology which was held at the Conrad Hilton Hotel in Chicago, December 12-14, 1955. C. Paul Hodgkinson, M.D., Birmingham, was elected secretary, and the district chairman is Harold C. Mack, M.D., Detroit.

### Attention AAGP Members:

The American Academy of General Practice Commission on Education has just announced that the Michigan Clinical Institute (Sheraton-Cadillac Hotel, Detroit, March 7-8-9) falls within Category II of the Academy's definition of acceptable postgraduate study.

Academy members who attend the 1956 Michigan Clinical Institute will receive credit toward their 100 hours of postgraduate study required in this category every three years.

## THE DOCTOR'S LIBRARY

Acknowledgment of all books received will be made in this column, and this will be deemed by us as full compensation to those lending them. A selection will be made for review, as expedient.

**HISTORY OF MEDICAL PRACTICE IN ILLINOIS.** Volume 11: 1850-1900. Issued by The Illinois State Medical Society approximately a century after the reorganization of the Society in 1850. Arranged and edited by David J. Davis, M.D., Ph.D., Permanent Historian and Member of the Permanent Committee on Archives of the Illinois State Medical Society; Member of the Illinois State Historical Society; Dean of the University of Illinois College of Medicine 1924-43, Dean Emeritus, 1943 to date; Professor and Head of the Department of Pathology of the University of Illinois College of Medicine 1913-43, Professor Emeritus 1943 to date. Chicago: Illinois State Medical Society, 1955.

**MEDICAL TREATMENT OF MENTAL DISEASE.** The Toxic and Organic Basis of Psychiatry. By Daniel J. McCarthy, A.B., M.D., LL.D. Consulting Neurologist, Philadelphia General and Norristown State Hospitals; Associate Trustee, University of Pennsylvania; formerly Medical Director of Fairmount Farm and Roseneath Farm, and the Neuropsychiatric Service, St. Agnes Hospital, Philadelphia, and Professor of Mental Jurisprudence, University of Pennsylvania, and Kenneth M. Corrin, B.S., M.D., Neuropsychiatrist, Wilmington General Hospital, and Consulting Psychiatrist, St. Francis Hospital, Wilmington, Delaware; formerly

Clinical Director, Wernersville State Hospital and member Psychiatric Staff Philadelphia General and Jefferson Hospitals, and Instructor in Psychiatry, Jefferson Medical College. With sections by eight contributors. Philadelphia and Montreal: J. B. Lippincott Company, 1955.

**MENTAL HYGIENE IN PUBLIC HEALTH.** By Paul V. Lemkau, M.D., Professor of Public Health Administration, Division of Mental Hygiene, School of Hygiene and Public Health, The Johns Hopkins University; on leave as Director of Mental Health Services, New York City Community Mental Health Board. Second edition. New York, Toronto, London: The Blakiston Division, McGraw-Hill Book Company, Inc., 1955. Price, \$8.00.

During the six-year interval between the publication of the first edition of this book and the current edition, considerable progress in mental hygiene has taken place. Dr. Lemkau presents a comprehensive analysis of this new material and information.

Most of the volume is devoted to an attempt to find out what modifications of personality are possible, and to an explanation of those agents which have proven effective in the process. The concept of an interplay between personality structure and stress factors forms the basis of treatment. While it is true that the subjects of mental hygiene and of public health originated from opposite viewpoints, they have now been merged through necessity. Mental hygiene is an outgrowth of psychiatry, and began, therefore, as a concern about the individual. Public health, on the contrary, began with a concern

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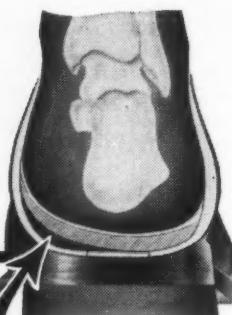
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about those factors which affect the health of groups rather than individuals. At the present time, the latter field is being forced to take individual health and individual treatment more into consideration.

The techniques of mental hygiene which range from the relatively impersonal printed article to the intensely personal relationships that may develop in recurrent small discussion groups under trained team leadership are discussed at considerable length. Dr. Lemkau points out frequently that techniques should never be allowed to become the central issue.

Methods of attacking the problem at the national, state, and local levels are presented. The need for proper organization is demonstrated. The development of the individual forms a large section of this volume. The book is well documented.

J.H.G.

**SURGERY OF THE AMBULATORY PATIENT.** By L. Kraeer Ferguson, M.D., F.A.C.S., Professor of Surgery, Graduate School of the University of Pennsylvania; Professor of Surgery, Women's Medical College of Pennsylvania; Surgeon, Graduate Hospital of the University of Pennsylvania; Woman's Medical College Hospital, Philadelphia General Hospital and Doctor Hospital. With a Section on Fractures by Louis Kaplan, M.D., F.A.C.S., Senior Attending Surgeon, Albert Einstein Medical Center, Southern Division; Clinical Professor of Surgery, Hahnemann Medical College; formerly Associate in Surgery, University of Pennsylvania; in charge of the Fracture Division of the Surgical Outpatient Department, Hospital of the University of Pennsylvania. Third edition. 664 illustrations. Philadelphia and Montreal: J. B. Lippincott Company, 1955. Price, \$12.00.

*Surgery of the Ambulatory Patient* by L. K. Ferguson is not new to the industrial surgeon, those doing surgery of trauma and the general practitioner. In fact, the entire medical profession is well acquainted with this excellent treatise. The third edition is even more inclusive than its predecessors. One large new section takes up in detail the use of the adrenal hormone preparations. Anesthesiology is covered in detail, and much has been added on the newer antibiotics.

The detailed table of contents is a great aid in making this book useful as a reference. The new double column format makes for easier and more rapid reading. The illustrations are numerous and excellent, and many new ones have been added.

Many improvements and additions have been made in this already fine book. Anyone doing any type of office surgery should have this volume available at all times.

P.C.K.

**CORTICOTROPIN. Its Pharmacologic Effects in Man and Practical Therapeutic Utilization.** By Gordon B. Myers, M.D., William Q. Wolfson, M.D., Wayne University College of Medicine and Detroit Receiving Hospital. Detroit: Wayne University Press, 1955.

This monograph presents within seventy-six pages of text virtually every significant fact known about corticotropin at the time of publication. It represents a condensation of the voluminous literature available, and presents extensive personal experience. Both authors were

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among the first to conduct clinical investigations on the effects of corticotropin before it became generally available through commercial channels.

The text includes a description of preparations now on the market, the nature of diseases for which this therapy is indicated, a list of concomitant diseases prone to exacerbation under such therapy, dosage schedules, adjuvant medication, and a concise systematic presentation of the pharmacologic basis and specific therapeutic aspects of corticotropin. If any valid criticism of this monograph may be found, it is that it may be a little too complicated for the average practitioner who is unfamiliar with the ramifications of this subject.

It is gratifying to note that the authors have attempted to correct several widely held erroneous impressions regarding the differences between corticotropin therapy and steroid therapy. For example, because the clinical effects following the administration of either corticotropin or cortisone in many diseases are similar, the assumption has been made that corticotropin stimulates the secretion of cortisone by the adrenal. Actually, the most convincing evidence at present indicates that cortisone is not a secretion of the adrenal cortex at all. The principal secretions identified in venous blood from the adrenal are corticosterone and hydrocortisone in relatively large amounts, androgens in smaller amounts, and aldosterone in traces. The authors point out that aldosterone is now recognized as the electrolyte and fluid regulating hormone of the body, although not enough of it has been

prepared as yet to permit a large accumulation of data. Its occurrence in the amorphous fraction of adrenal extracts was predicted more than ten years ago.

The authors deserve commendation for condensing such a large volume of published material, and for selecting the data which rest on provable fact.

J.H.G.

**THE AMERICAN DRUG INDEX.** By Charles O. Wilson, Ph.D., Professor of Pharmaceutical Chemistry, College of Pharmacy, University of Texas, and Tony Everett Jones, M.S., Instructor of Pharmaceutical Chemistry, College of Pharmacy, University of Colorado; Director of Pharmaceutical Research, Carbisulphoil Company, Philadelphia and Montreal: J. B. Lippincott Company, 1955. Price, \$5.00.

This book of 576 pages is a dictionary, listing in black capitals and alphabetically the pharmaceuticals available to the profession. Names listed are generic, brand or trade-mark; chemical, U.S.P., N.F., N.N.R., and A.D.R. synonyms are included. Because of the multiplicity, there is much cross reference.

The description, identification, manufacturer, preparation and use, are given, and if there is another name, that is indicated in parenthesis. Under the word vitamin are more than sixty pages of lists and tables. A very handy reference.

\* \* \*

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\* \* \*

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